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WORLD MARITIME UNIVERSITY

Malmö, Sweden

SHIPPING POOLS IN BULK SHIPPING MARKETS

By

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The People's Republic of China

A dissertation submitted to the World Maritime University in partial
fulfilment of the requirements for the award of the degree of

MASTER OF SCIENCE

in

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Abstract

Title of Dissertation: Shipping Pools in Bulk Shipping Markets

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This dissertation is a study of strategic co-operation among bulk shipping companies – shipping pools. Attention is given on the reasons for the existence of bulk shipping pools, the rational analysis of shipping pools, and the performance of shipping pools in different market segments. This dissertation also focuses on the development of shipping pools by comparing the existing pools with the statuses reported by the Drewry Consultant Co. in 1974.

This dissertation is composed of six main chapters, the introduction and the summary and conclusion.

In the Introduction, background and the purpose of the study are given as a general view of this paper.

Chapter two and three deal with the economic analysis of the bulk shipping industry. By studying the economic environment of the shipping pools, the difficulties in bulk shipping industry were examined and the rationale of the shipping pools was discussed.

Chapter four focuses on the basic structure and characters of shipping pools. The main type of bulk shipping pools, the basic ownership structure and management structure as well as basic operation of shipping pools are introduced.

Chapter five discusses the rationale of bulk shipping pools. Advantages and disadvantages of bulk shipping pool was illustrated in this chapter.

Chapter six studies the bulk shipping pools in different market segments. Chapter seven concerns the analysis of the comparison between existing pools nowadays

and the shipping pool statistic resources in 1974. The development and new trends of shipping pools are discussed according to the analysis.

Finally, the concluding chapter summarises the results of the study on the above-mentioned topics.

Keywords:

Shipping pools, Bulk shipping, Dry bulk markets, Tanker markets, Volatility, Cycles, Consolidation, Competition, Co-operation.

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List of Abbreviation

COA	: Contract of Affreightment
DWT	: Deadweight
GDP	: Gross Domestic Product
LNG	: Liquefied Nature Gas
LPG	: Liquefied Petroleum Gas
OECD	: Organization for Economic Co-operation and Development
OPEC	: Organization of Petroleum Export Countries
PCC	: Pure Car Carrier
PCTC	: Pure Car and Truck Carrier
PMC	: Pool Management Company
ULCC	: Ultra Large Crude oil Carrier
VLCC	: Very Large Crude oil Carrier

CHAPTER I

INTRODUCTION

Background and purpose of study

Shipping pool is a concept originated from liner shipping. Several liner companies put their tonnage together on the same route in order to spread risks of severe competition and secure higher income. This concept was expanded to the bulk shipping market in mid 1960s. Shipping pools in specialized bulk segment was once recognized as one of the most effective ways to overcome difficulties brought up by the low market. In 1974, there were 26 examined shipping pools existing in bulk segment. But the pooling concept seemed not popular in the whole bulk shipping as there were always so many small independent shipowners in the markets whereas the market was always controlled by very few big trading houses or oil majors.

In the late 1990s, the trend of consolidation spread over the shipping markets. In liner shipping, with the merger of Maersk – Sealand, there were only 6 global carriers left in the liner shipping business. Realizing the benefits achieved in liner shipping through consolidation, the bulk shipping players again draw their attention to pooling arrangements. The most significant step was in February 2000, when the six leading tanker operators signed up and formed a new tanker pool with 50 VLCCs and a share of 9% of the world total VLCC fleet. Some players are still watching, but more and more shipowners are enthusiastic to think about potential pooling arrangements.

The long recession in the 1990s has made the shipping business gain a reputation of high risk and low return. Not every one in the industry believes the shipping pool is a tool to fight against the low market. Some players rejected pooling arrangements for a long time but they are still able to maintain a higher level of profitability. The reason behind it must be complicated.

The purposes of this dissertation are:

- i. To find out the rational for the existence of bulk shipping pools from an economic point of view.
- ii. To study the basic structure of bulk shipping pools
- iii. To examine the advantages and disadvantages of shipping pools through economic analysis.
- iv. To give an outlook of main shipping pools in today's bulk shipping industry.
- v. To examine the practical performance of bulk shipping pools through statistics.
- vi. To analyze the trends of development of bulk shipping pools.

Methodology of research and difficulty encountered

The main methodology of research in this dissertation is based on economic analysis. To examine the main reasons that account for the difficulties in bulk shipping markets, basic demand-supply analysis and cost analysis were used. Statistics is one main tool to determine the economic indicators in this study, however, to assure the accuracy of the statistics, extensive work on finding the authoritative publications and data mining on internet was carried out.

The main difficulty that the writer encountered was lack of academic literature on shipping pools. A few publications were very good with a basic understanding of shipping pools, but there was no deep layer analysis. Most information regarding shipping pools was fragmented, and some information from different source contradicted each other. This made it very difficult to guarantee 100% accuracy of the data collected. Despite these constrains, the author is still quite confident in the statistics in this dissertation as extensive work on data mining has been done and very useful information was collected throughout the period.

Chapter II

Introduction to the bulk Shipping Industry

2.1 Introduction to world seaborne trade and bulk shipping

Shipping is closely related to the world economics and trade. In the past few decades, the technical revolution in shipping has improved its productivity to such extent that it is already beyond the expectation of most participants in this industry. This improvement has successfully made the ocean transportation as the main means of transportation, compared with road and rail transport. The high productivity and low cost have also made ocean transportation become one of the most important incentives for world economics and trade growth. This could be proved by the fact that global trade volume growth has continually outpaced the increase of the world's GDP. Ocean transportation is a service sector that is directly derived from world seaborne trade. The high dependence of shipping on world seaborne trade has made it necessary to examine the world seaborne trade before studying any issue related to the shipping business.

2.2 World seaborne trade

In 1999, the world seaborne trade was 5,100 million tons. This represents an annual growth of 1.8% from 1980. Among those cargoes, 1,480 million tons were crude oil, 410 million tons oil products, 410 million tons of iron ore, 480 million tons of coal, 210 million tons of grain and 2,110 million tons of other cargoes. To examine the demands of shipping in a more accurate way, the concept of "tonne-miles" is often used, which means the haulage of one tonne of cargo for a nautical mile. In terms of tonne-miles, the world seaborne trade of 1999 was 21,480 billion tonne-miles, representing an annual growth of 1.3% from 1980. Crude oil still maintained its no.1 position with a total of 7,500 billion tonne-miles; others were: oil products 2,010

billion tonne-miles, iron ore 2,220 billion tonne-miles, coal 2,430 billion tonne-miles, grain 1,170 billion tonne-miles and other cargoes 6,150 billion tonne-miles (ISL 2000, 56). This is illustrated in Figure 2.1.

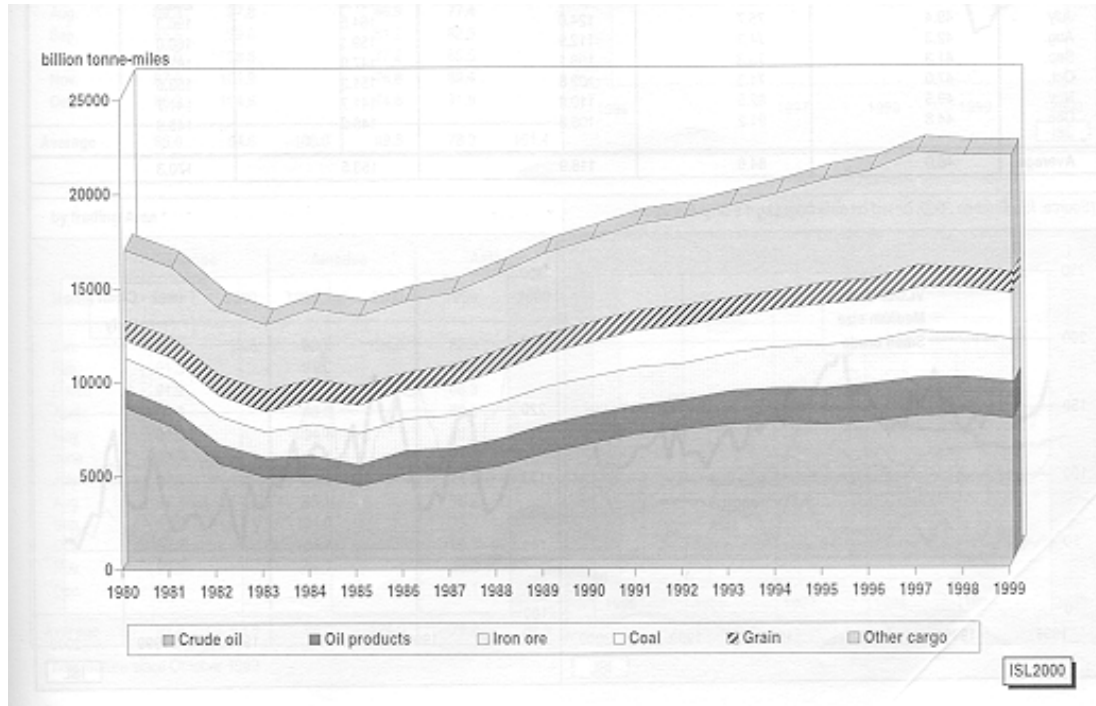


Fig. 2.1: Tonne-miles performed by world fleet 1980-1999

Source: ISL Bremen 2000, 2000

2.3 Bulk cargoes

From the above description, a notable fact is that the trade of oil and oil products, iron ore, coal and grain attribute 59% and 71% respectively in terms of volume and ton-miles to the world seaborne trade. All these cargoes are drawn from the raw material trade. They are homogenous cargoes and usually their parcel size is sufficient to fill a whole ship. The characters of these cargoes are so-called “bulk cargo”. Bulk cargo is also included in the item of other cargo in Figure 2.1. There is no doubt that bulk shipping is overwhelmingly important in world seaborne trade in terms of cargo volume. More than three-quarters of world total tonnage are engaged in the bulk shipping industry. Therefore, to have a thorough view of shipping industry

as a whole, it is important to study the economic phenomenon in the bulk shipping sector. Ship pooling arrangements have existed for a long time and in almost all sectors of the shipping business; however, shipping pools in all sectors will not be studied but to limited to bulk shipping. It is sometimes arguable that some sectors of shipping, such as reefers, car carriers LPG and LNG, have very special features and market coverage. They do not belong to the bulk shipping sector. However, from the previous description of bulk cargo where one ship one load concept is applied, it is logical to classify those as bulk cargoes. Another reason for this classification is the fact that, the pooling concept has been prevailing in these sectors for a long time and they have a very important presence in shipping pools.

Based on this principle, the bulk cargo can be classified into the following four categories:

1. **Liquid bulk**, is cargo which requires tanker transportation. The main commodities are crude oil and oil products. In 1999, they generated 37% of the volume of world seaborne trade. Others are liquid chemicals, such as caustic soda, vegetable oils and wine. The size of individual consignment of liquid bulk ranged from a few thousand tons to 560,000 tons in case of ULCC.
2. **The major bulks**, are cargoes which are usually shipped in large bulk carriers. They are mostly basic raw materials for human life and industry. Five main categories are, iron ore, grain, coal, phosphates and bauxite.
3. **Minor bulks** cover many other commodities that were transported in shiploads. The most important ones are forest products and steel products. Other commodities are cement, ores of manganese, copper, nickel, zinc and chrome, gypsum, sugar, salt, wood chips and other chemicals.

4. Special bulk cargoes refer to those bulk cargoes with specific handling or storage requirements. Motor vehicles, refrigerated food, cement plant, project cargoes and prefabricated building fall into this category.

2.4 Shipping segments in a strategic perspective

Similar to bulk cargo segmentation, the world bulk fleet is usually classified into tankers, dry bulk carriers and special bulk carriers such as reefers and car carriers. This segmentation method of bulk shipping is widely accepted by the industry. However, to study economic phenomena of the shipping market, this is far from enough. A deeper sight of this market is needed. An ideal tool to be used in this study is dividing the bulk shipping sectors in a strategic perspective.

As indicated in Figure 2.2, by using two different dimensions – economies of scale and service differentiation – bulk shipping can be divided into 4 main categories:

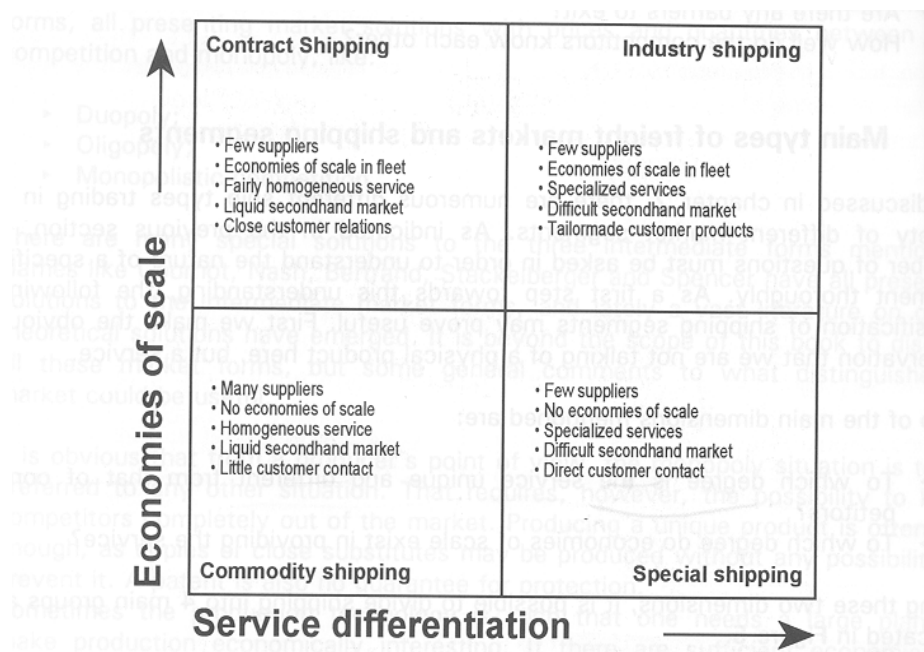


Fig. 2.2: Main types of shipping segments

Source: Wijnolst, N. & Wergeland, T. : Shipping (1997), p300

In the bottom left corner, there are no economies of scale and all services are in a very homogeneous manner; thus, a pure competitive situation will be the result. This is the so-called commodity shipping.

If economies of scale become prominent, commodity shipping might move up to contract shipping. In this case, the relation with customers becomes prominent as well. If there is no good relation with customers at the initial stage, the flexibility, reliability and lower average cost, which usually exist in large organizations, could be crucial factors to develop a good relationship with customers. A lot of bulk shipping pools are formed for this reason.

When increasing the degree of specialization, the customer relations might change again. In this case, the parties concerned will highly rely on each other. High profit may be earned but the high risks may also come because of high exit barriers.

The last box, where both requirements are high, is called industry shipping. In this segment of shipping, the relationship between customer and service provider is even closer. The service is tailor-made to suit the special requirements of the customers. If this relationship can be well maintained, a high rate of return can be expected almost the same as in a monopoly situation.

The basic idea reflected in this theory will be used as an important tool for further discussion of the bulk shipping business and shipping pools.

Chapter III

Difficulties in bulk shipping industry

3.1 Difficulties of the shipping industry

The shipping markets were heavily influenced by the Asian financial crisis from late 1997, with the 2nd half of 1999 as a turning point. Nevertheless, even with recoveries, the return on capital has been unacceptably low, and the shipping industry over the last decade must be characterized as high risk / low return markets.

Comparisons between the return of capital from shipping investments and other investments alternatives show that shipping has not performed well at all. Stock indices in world's major stock markets rose by as much as 14 to 16 percent annually in the last decade. It is 7 to 9 percent points above the return on long-term bonds. With a normal gearing this corresponds to 10 to 11 percent return on total capital. Taking into account the higher risk involved in shipping investments a reasonably required return could therefore mean 12 percent on total capital. However, in reality, the return on shipping investments in the 1990s was considerably lower, namely between 3 and 9 percent (The R. S. Platou Report 2000). The highest return is seen for containers and chemical carriers, and the lowest return was seen for tankers and bulk carriers, which is just the topic of this dissertation. It's no doubt that volatility nature is one of the most important reasons for the low return of shipping business. The high risk of shipping is a direct consequence of this nature. Low profitability and free competition are the other two main reasons contribute to the low return of shipping. In point of view of this writer, these two are also closely related to the volatility of shipping business. To identify the reason for the low return of shipping business, particular to the bulk shipping sector, and to propose any potential measures to fight against this condition, firstly we need to examine the reasons that caused the volatility nature of bulk shipping.

3.2 Demand analysis:

3.2.1 The world economy

There is no doubt that the world economy is the most single important factor that determines tonnage demand. The purpose of world economy is initially to meet the basic human living requirements, such as food, accommodation and power; then, depending upon the development level, different countries and areas will need different levels of manufactured products. The location of the world raw materials, and the different economic development levels result in exchanging these raw materials and manufactured products. This makes shipping a basic chain of the world economy. The close relationship between world economy and shipping demands is illustrated in Figure 3.1

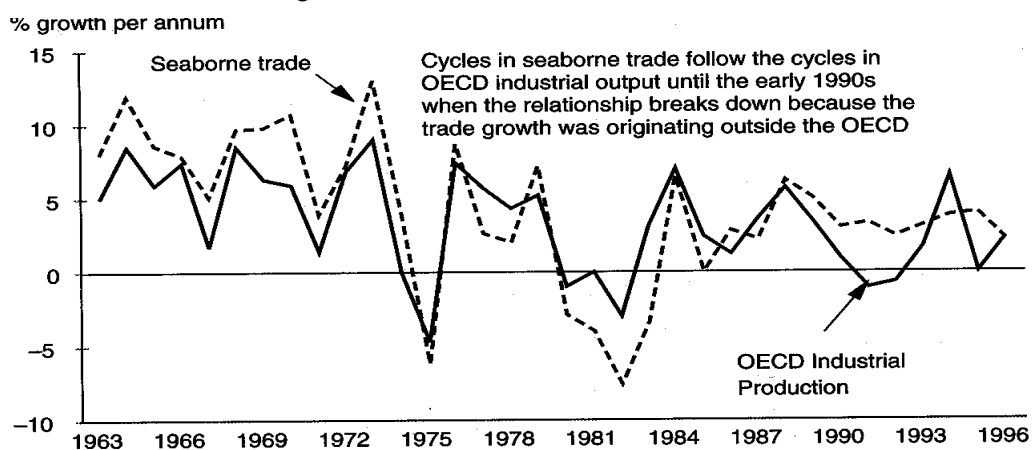


Fig. 3.1: Industrial cycles and sea trade

Source : Martin Stopford, Maritime Economics (1997), P118

In this figure, industrial production of OECD countries was used to represent the economic activities of the world economy. As long as it can represent a stable proportion of world economy, say, before late 80s when new industrial growth powers outside OECD counties emerged, it keeps a close step following economic change. The fluctuation in economic growth works through seaborne trade, creating a follow-up swing in the demand cycling. Thus, business cycles are the driven force of the volatility of the world economy as well as demand in

shipping services. There are 5 main reasons that cause business cycles (Stopford,1997, p.118):

The multiplier and accelerator. The main internal mechanism that creates cycles is the interaction between consumption and investment. Income (GNP) may be spent on investment goods or consumption goods. An increase in investment creates new consumer demand from the newly employed workers. As the extra consumer expenditure trickles through the economy, growth picks up the income accelerator, generating demand for even more investment goods. Eventually labor and capital becomes fully utilized and the economy over-heats. Expansion is sharply halted, throwing the whole process into reverse. Investment orders fall off; the multiplier and accelerator go into reverse. This creates a basic instability in the economic 'machine'.

Time lags. The influence of economic decisions can only be detected long after their implementation; this delay will cause the cyclical fluctuations to be more extreme. An easy understanding of this theory can be applied to new building delivery. After long time construction, the market may be far different from the owners initial estimation, delivery of new building at that time may means either disastrous loss or unexpected wealth.

Stock building. Has the opposite short-term effect. It produces sudden bursts of demand as industries adjust their stocks during the cycle.

Psychology factors. Some times may intensify the cycles. If people act independently, their errors can be omitted. But in case they act in an imitative manner, most of them can not realize clearly, this will lead to a trend that can effect the whole economic system.

Random shocks. This mainly refers to those unpredictable affairs, such as political turmoil, natural disaster. Their impact on economy is usually very severe.

3.2.2 Seasonal cycles

One of main reasons for fluctuation in demand in the short run is seasonal fluctuation of some major commodities. Over the course of any given year – and generally irrespective of geography position – market sentiment expects certain seasonal movements to come about.

Broadly speaking, the “traditional” problem appears as a spring revival, a summer lull and an autumn upturn. Improved activity in the spring is normally grain traffic driven, usually through the Southern Hemisphere seasons, and especially out of Brazil and Argentina – and to some extent Australia. Normal expectation would be for this activity to peak in April or May. The summer period tends to see the market enveloped in a degree of lethargy. In part this relates to the main Northern Hemisphere holiday periods. With coming of autumn season, an upturn of business cycle as well as shipping market begins again. Building up storage of grain and energy cargoes for winter are the main reasons for this upturn. In tanker market, the phase of seasonal cycles in most cases is almost same as dry bulk cargo demand, as it was also caused by high consumption of energy in Northern Hemisphere in winter seasons.

However, there is still another reason that could influence main industrialized countries, this is what so-called motoring season. Every year, during the summer month of June, July and August, quite a lot families in North America and Europe will drive out for their summer vacations, thus the gasoline consumption in this period will reach peak level of the year.

At a more micro-level, there are also expected market moves that enable owners or charterers to avoid having either tonnage or business “open’ during holiday periods. Depending on the direction of fundamentals at the time, one of the players is likely to be prepared to give ground on rates in order to get business firmly in place. The Christmas/New Year period is a typical example, but others will include the Chinese New Year, Easter/Greek Easter and the Japanese Golden Week breaks.

Seasonality has a disproportional effect on the spot market. Transport of seasonally cargoes is hard to plan, so shippers of these cargoes rely heavily on spot chartering market to meet their requirement. As a result, fluctuations in seasonal commodities are inevitable. Unfortunately, a substantial proportion of bulk cargoes has a seasonality nature, thus the severe fluctuations of demand in bulk shipping market are inevitable.

3. 2.3. Weather Changes

Weather change can also influence the demand of shipping to some extent. The El Nino phenomenon between 1997 to 1998 had a global impact. Most agriculture products were affected. Some agriculture export countries may cut their export, and some self-sufficiency countries suddenly need huge amounts of imports. Cold winters in Europe mean amplification of energy import; therefore, either the crude oil markets or the coal markets will pick up a clear climbing up. Weather changes are unpredictable but happen all the time. Draught in Africa, floods in southern China, hurricanes in North and Central America - all these weather phenomena never stop imposing new variables shipping demands. Sometimes this will create new demands, sometimes not.

3.2.4. Changes in shipper's transportation policy

There are two major changes in the shipper's transportation policy. One is more and more big shippers are no longer likely to own their own fleet. They want to distance themselves from the potential litigation actions arose by liability accidents. Another change is more factories and industrial manufacturers are striving to reduce the inventory.

It is well known that, among the four segments of shipping, the industry shipping is the most stable one, followed by contract shipping. In contrast, commodity shipping has severe fluctuations with the change of demand. The first change will shift some shippers' self-owned tonnage, which is obviously in the scope of industry shipping, to the less stable contract shipping or fluctuating commodity shipping. The second

change, which is caused by either zero-inventory policy in Just-In-Time system or financial constraints for high volume of inventory, moves some of industry and contract shipping to commodity shipping. There is not much long-term commitment of cargo from cargo owners any more.

Over-supply of carrying capacity is also one of the main reasons for these changes. In an over-capacity situation, more shippers will shift their cargo to spot markets to take advantage of low freight rates.

3.2.5. Unexpected political events

Regarding the demand change of shipping, as well as the world trade, the impact of political disturbance should never be neglected. Political disturbance will not only include wars, revolutions and United Nation's sanctions but also localized turmoil or strikes. Shipping is performing the movements of cargo for the international trade, so any political disturbance that disturbs the world economy will be important to shipping. The history of shipping after the World War II can be fully characterized by a series of unexpected political events – most of them burst out all of a sudden, without any prediction. The impacts of these events can be digested by the industry for months or years. So far, the most influential events to shipping markets are following 9 political events:

1. The Korean War in early 1950
2. The nationalization of Suez Canal to Egypt government in 1956
3. The formation of the Organization of the Petroleum Exporting Countries (OPEC)
4. The Six Day War between Egypt and Israel in 1967
5. The closure of the Tap Line oil pipeline between Saudi Arabia and the Mediterranean in 1970
6. The nationalization of Libyan oil assets in 1973
7. Yom Kippur War in 1973
8. Iran Revolution in 1979
9. The Gulf War in 1990/1991

Evidently, all these events caused dramatic fluctuations in the shipping markets.

3.3 Supply analysis

3.3.1.Overcapacity

Overcapacity has been harassing ship owners for a long time. In January 2000, 158 merchant ships with 3.0 million DWT were unemployed. This idle tonnage potential was composed of 41.1% of tankers and further 29.6% were attributable to bulk carriers. However in 1997 and 1998, this figure was about twice as high as today's level. Notably, there is also storage capacity in some nations, such as the United States. Some of this storage capacity is not exposed to the public; hence, these figures do not include the storage capacity. Over capacity has existed for decades, but every ship owner did not regard it as a good thing. So far, no evidence shows that some players in the industry are trying to solve this problem. The crucial question is how the shipping industry has been able to attract capital in strong competition with other industries given its high risks and low returns. The answer is supposed to be very complex, however, the main reasons can be concluded as follows:

- Many shipowning companies have been family-owned for generations and are characterized by tradition and loyalty to the industry. Members of those families are apparently prepared to accept negative risk premiums. But it also needs to be borne in mind that large fortunes have been made in shipping over short periods of time and that many wealthy and famous people have been and possibly still are shipowners. This has lent a certain aura to the industry with a kind of magnetic attraction.
- In times of difficulties the shipbuilding industry with its persistent overcapacity has received large volumes of supportive orders from domestic sources, where normal profitability criteria have been waived.

- During certain periods there is a lot of risk-willing capital flowing into shipping projects from financial sources highly peripheral to the industry. These are often marginal and random portfolio investments.
- Many orders placed are based on unrealistic expectations of an imminent need for replacement of old tonnage, probably spurred by the charterers.
- Some orders are placed on the basis of a short-term asset play strategy and not with the long-term need for tonnage in mind.
- Scrapping and newbuilding are two direct factors that decide the overall growth of ship's supply. But to most ship owners, as long as their ships can win marginal profit, or even be at an acceptable loss level, they will not send their tonnage to the scrapping yard. Some of them always have a high expectation that the market will improve soon, and some of the owners may just "fall in love" with their ships.

Overcapacity was accused being as the main reason to cause the market fluctuations. To achieve a healthy bulk shipping market, some may feel it is better to eliminate it. It is seemingly correct, but from a study by Wergeland and Wijnolst (p.352), an argument for an unregulated market is provided. The freight rate fluctuations, which are mainly caused by over capacity, can be seen as a sign of a market where the market mechanism is really functioning.

To see this point, they take the tanker market as example. A dictator is assumed to be given the power to completely plan and control the entire tanker fleet. To achieve an optimal size for the world tanker fleet, the fleet must be so large that the value for the oil company of getting an extra unit of transportation capacity, weighted by the probability that this capacity should be scarce, is equal to the cost of getting this extra capacity:

$$P(k') \cdot v = b$$

K = Fleet of tankers

b = Cost of providing one unit of transportation extra

v = The value for the oil company of getting an extra transportation unite

when capacity is scarce

$P(k)$ = Probability of having too little capacity if the fleet is k

k' = The optimum fleet

Then, it means that:

$$P(k') = b / v$$

The cost b must be equal to the break-even rates for newbuildings. The value v is at least equal to the value of one tonne of crude oil, which is obviously very costly. If capacity is not enough, the worst thing that can happen for an oil company is the refinery must be shut down. This cost is even higher than the value of cargo.

Following this fact, v could be many times as large as b , even at current newbuilding cost. Then it follows that the optimum fleet should be as large as to reflect the relative level of b vs. v . Under such circumstance, from the point of view of the transportation user, it is both rational and indeed optimal, to have a tanker shipping business that most of the time has a sufficient overcapacity to prevent a real scarcity situation.

Apart from overcapacity, there are some other reasons from the supply side which have negative influence on forming a stable and less risky shipping market.

3.3.2 Time lag

Building ships takes time. Even with the improved shipbuilding technology, the shortest delivery time for a Panamax is still more than one and half years; market changes will not keep in this step. During booming times, owners will rush to the shipyard to place orders. After a long construction time, it is most likely that the shipping cycles moved to the next recession. When the arrival of new deliveries at a time there is already overcapacity, this will further discourage new ordering just at the time when shipyards are running out of work. The results of these time lags make booms and recessions more volatile and cyclical.

3.3.3. Prospect of an influx of speculative new buildings

One of few certainties of the bulk market over the years has been that the order book for new ships is almost always too large. Alongside this there tends never to be enough demolition. Arguably, numbers of new ships in themselves are not the problem. The real concern is over new ships built on a purely speculative purpose. In 1999, over 1995-1998, among 332 Panamax bulk carrier newbuilding orders, there were over one third new building orders which were built based on speculative purposes.

Table 3.1 Estimated proportion of Panamax bulk carrier orders (1995-98) with employment attached

Employment attached?	No.	'000dwt	%
Yes	187	13,833	56.6
No	120	8,805	36.0
Pool	16	1,153	4.7
Perhaps	9	657	2.7
Total	332	24,445	100

Source: Dry Bulk Market Prospects 1999-2003, Drewry shipping Consultants (1999)

As previously explained, the speculation tonnage will increase the pressure for overcapacity, and lead to downturn shipping cycles. Much of the speculation orders will involve asset play games, as well as some second hand transactions. For individual shipowners in certain periods, a success asset play would have yielded returns far more than other businesses, but it must be remembered meanwhile, it is to a large extent a zero-sum game for the shipping industry as a whole.

3.4 Joint force of demand and supply

According to the above analysis, demand is volatile, quick to change and unpredictable; supply is ponderous and slow to change. The freight mechanism amplifies even small imbalances at the margin. The lower step from the supply side can never catch up the step from the fast changing demand side. That is why the balance between the supply and demand is so hard to achieve. However, as a natural law, there must exist a certain extent of balance between supply and demand; therefore, it is a dynamic balance that was finally achieved. The feature of this dynamic balance in shipping “shipping cycle” is called. Figure 3.2 shows a “typical” shipping cycle.

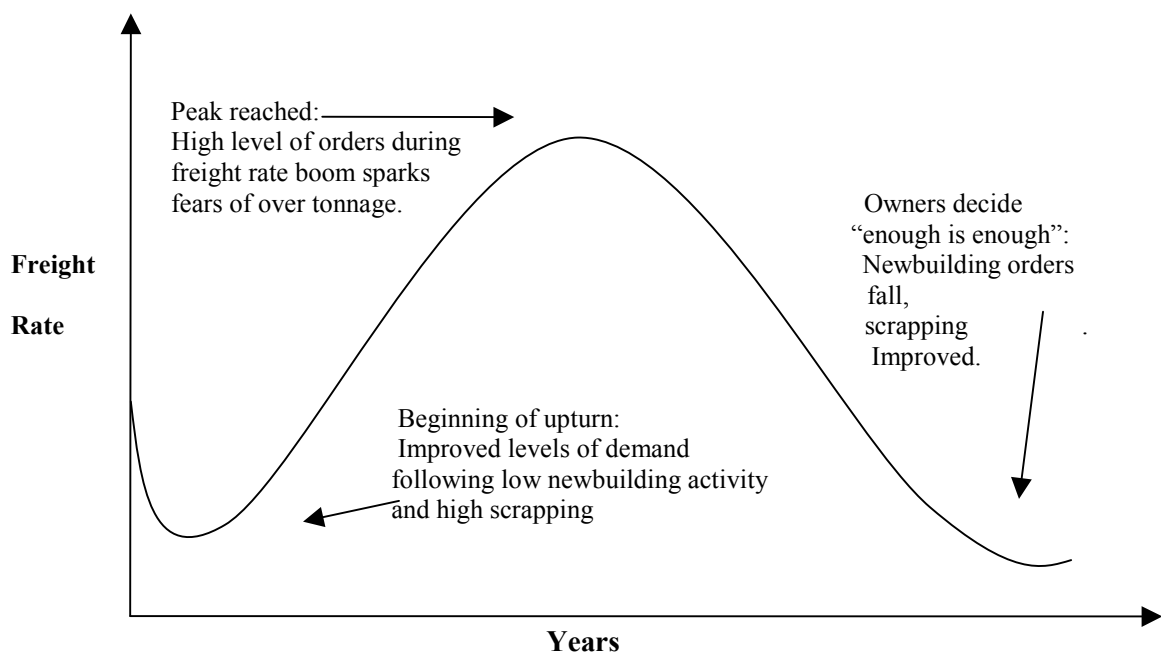


Fig.3.2 : The course of a “typical” shipping cycle

Source: Drewry Shipping Consultants Ltd.

During the course of a “typical” shipping cycle, there are three distinct stages that can be identified:

1. The beginning of the upturn is traditionally triggered by improved levels of demand, following a period of subdued newbuilding activity and higher than average scrapping.

2. Following a sharp upturn in the volume of newbuilding orders placed as owners' confidence increases; a peak is reached when the size of the vessel orderbook begins to trigger alarm bells and undermine market confidence.
3. A market trough is reached when owners decide that "enough is enough". Newbuilding orders dry up, sales for demolition increase markedly and the process self-correction is set into section

What the shipping cycles bring to shipping is uncertainty and risk, which have a direct relation to the low return of the shipping business. The market for bulk carriers is seen as cyclical caused by mismatching demand requirements and available shipping capacity. Shipping cycles bring both opportunities and threats to the players, but only a lucky few can take advantage of cycles. For the majority of participants in the industry, a relatively stable shipping market is in their high expectation.

3.5 Low profitability of shipping business

Trading costs of bulk ships can be classified into the following 3 categories:

- **Capital costs** are determined by the purchase price and including interest rate.
- **Operating costs** include crew wages, victualing, vessel maintenance and repair, insurance, consumable supplies and administration.
- **Voyage costs** are those incurred in the undertaking of a specific voyage and include the price of bunkers, port charges, commission payments and other ancillary disbursements, such as canal and seaway charges.

Despite the long time recession of the shipping market, both operating costs and voyage costs have no signs to decrease. This puts high pressure on the owners' daily cash flow. However, what is even worse is at the capital costs. The shipping business is a highly capital intensive investment; to build a new ship, high amounts of capital will be injected. High capital investment means high risk exposure to shipowners, but unlike most other businesses which are following the law of high

risk – high return, the shipping industry is widely acknowledged as a high risk – low return business. There is no exception for bankers to realize it. Thus, the high-risk investment will result in higher capital costs, with the joint force of a long-lasting low freight market, the low profitability is unavoidable.

3.6 Free competition of bulk shipping markets

It is widely accepted that bulk shipping is close to the model of a free competition market. The typical features of such a market are:

- There is a great number of shipowners who compete for the cargoes of numerous shippers.
- Few of the shipowners are big enough to control the market.
- Entry to the market is relatively easy.
- Institutional barriers limiting the competition are fewer and easier than in liner shipping.

The ever-lasting low barriers for entry and exit to bulk shipping and large number of small independent shipowners lead to cut-throat competition, thus in the long run, low profitability is inevitable.

3.7 Countermeasures to the difficulties

A further study of shipping segments in a strategic perspective, the dynamics of shipping segments will be discussed and then possible countermeasures to overcome these difficulties will be sought.

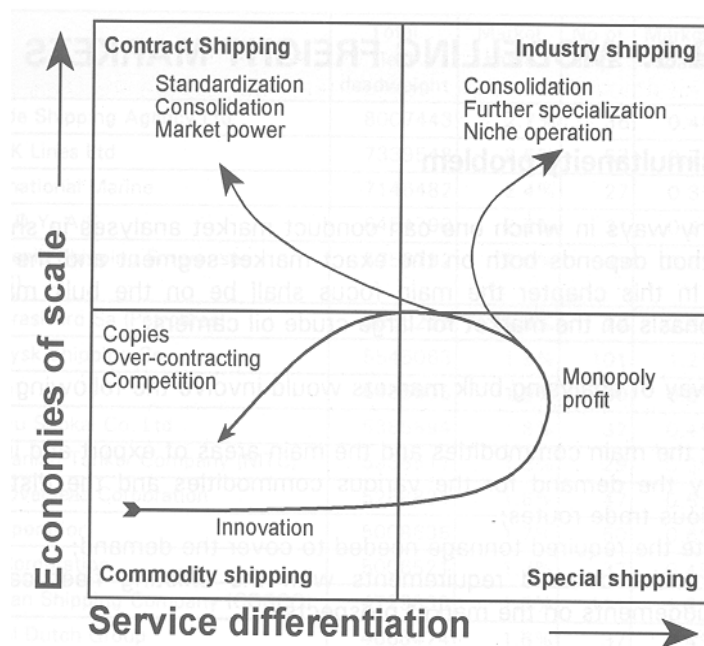


Fig. 3.3 : The dynamics of shipping segments

Source: Wijnolst, N. & Wergeland, T. : Shipping (1997), p303

Shipping is not a static industry. Historically, innovations in shipping have always been the driving force for the changes. Most innovations are initially developed from commodity shipping segments. Some developments were a result of depressed bulk markets; other came because bulk operators intended to try some new things.

When an innovation proved to be successful, this innovation will bring the creators into a special shipping market with high profit. However, this will attract more players in this segment. By a process of copying the new concept and over-contracting, the industry will find that the high profit is diminished at a very quick speed, and not long, the special shipping market becomes a commodity market.

To maintain profitability a consolidation process must take place. With merger, acquisition and pooling arrangements, most of the small players will leave this market. Thus, it leaves much space for big players who decide to remain in the special market, to move to the contract or commodity shipping market, and of course, avoid to return to the commodity shipping market. Most bulk shipping pools are created for these reasons.

A good illustration of this is Mr. Heidenreich, chairman of leading Panamax tanker pool – Star Tankers, he told Lloyd's List in 1999,

...after years of consolidation, the liner industry has a pretty good return on capital, and a pretty orderly market. You don't have that in tankers, even in chemical tankers which has been orderly. Ideally, we can have 30% to 40% of the market, and one or two other pools could develop that would take us together up to 80% to 85%. Then we would have an orderly market.

Chapter IV

Basic structure and characters of shipping pools

4.1 Theoretical work of co-operation in shipping

Shipping has a long history of cooperation. Many ship owners found that by cooperating in different activities, they can achieve higher performance than performing those activities on their own. There are various forms of cooperation between ship owners, such as joint venture, conference, pooling arrangements; all these forms of cooperation can be concluded under the definition of “strategic alliance”. As defined by Kogut (1988),

Strategic alliance refers to cooperation between two or more organizations which each partner attempts to add to its own competence by combining its resources with those of other partners

Strategic alliances offer skills that are complementary to the core skills of the whole organization. These skills combined with the core skills enable the organization to achieve various economies in its operations, and thus, competitive advantages. Based on the economies that an organization seeks to achieve, Reve (1990) identified four types of strategic alliances:

- Up stream alliances reap economies of upstream vertical integration.
- Down stream alliances achieve economies of downstream vertical integration.
- Horizontal alliances to attain economies of scale.
- Diversification alliances help firms attain economies of scope.

Depending upon different circumstances and conditions, every shipping pool may have different motives for their existence, but all shipping pools must fall into one or more forms of above four strategic alliances. Different members inside the shipping pools may also have a different perspective from their own angle. Viewed from small

ship owners, joining a big shipping pool and subsequently obtaining an access to stable long-term contract and income, it is a typical up stream alliance. From the point of view of some big shipping companies, when they pooled their tonnage with local operators, their aim was to get access to the national market; this could be called downstream alliance. When strong partners pooled their tonnage together, this is a typical horizontal alliance with aiming to achieve economies of scale and sometimes to be involved in horizontal diversification. The last circumstance lie when strong partners specialized in different scopes, or some partners come from a financial organization, the purpose is to diversify their core businesses and to achieve economies of scope. Among these four types of alliances, the horizontal and diversification alliances are the most widely adopted forms in bulk shipping pools and they have an important presence in today's bulk shipping pools.

4.2 Pool definition

In his BIMCO prize awarded "Shipping Pools", Mr. Willam Parckard gave a brief definition of shipping pool, "*An organized group of shipowners and/or traders sharing a common purpose*". There's nothing wrong this definition, however, the outsider may not understand the spirit of pooling arrangement easily from this brief definition. Another definition used by Leif Höegh is "A cooperation between owners who place vessels in a jointly controlled operational unit where freight income on timecharter basis is divided between the partners according to a predetermined key."

This definition is the particular case for this particular company; it can be only partially true if applied universally. Nevertheless, the basic idea of pooling arrangement reflected in this definition fits the scope of this dissertation well.

4.3 Main characteristics of bulk shipping pools

The main characteristics of bulk shipping pools can be summarized in the following 6 aspects (Haralambides, 1996):

- Similar tonnage
- Weighing system
- Fair share
- Central administration and joint marketing
- Freight collection and revenue distribution
- Centralization of voyage costs

4.3.1. Similar tonnage

When pooling different member's vessel, the first sight of the pool manager is to pool the similar ships together, it is hard to imagine putting a tanker and a reefer in the same pool. It is doubtless that securing large contracts of affreightment is the most important reason for creating a pool. Notwithstanding the necessary flexibility for such a venture, the required tonnage should be of a more or less similar type so that cargo and ship switches and optimum fleet deployment could be effectively managed.

4.3.2. Weighing system

Despite the fact that the pooled vessels in a shipping pool usually are similar vessels, the operational, trading, technical and design of ships vary one from another, even when referring to sister ships. To distribute the earnings fairly, a complex weighing and distribution system is needed. First, all pooled ships must have similarities in cargo-carrying capacity and operational functions. Then, according to pre-agreed conditions and schemes, every vessel will get a point as a basic of its earning capability. The conditions of the vessel may change from time to time; therefore, there is also a need for a re-assessment for ship's point. Finally, with this pre-arranged weighing system, the total earnings of the pool, with deduction of voyage costs and commission, will be distributed to the members in proportion with points of members' vessel. The weighing system is one of the most distinct characters of a shipping pool, it

varies from pool to pool, but most pools will distribute their earnings more or less in this way.

4.3.3. Fair share

The design and adoption of a 'fair' weighing system for income distribution among pool members can be complicated. Therefore, no matter how elaborate or accurate a weighing system is designed to be, the many uncertain factors and value judgements that sometimes are taken into account may lead some pool members to question its fairness. Under such circumstances, trust between pool members is an effective tool to maintain stability of the pool. Trust is normally stronger among partners who share similar views and business practices, regardless of nationalities of members. This is the reason why usually pools are created between ship owners of the same mentality, business ethics and ways of perceiving business objectives.

4.3.4. Central administration and joint marketing

Joint marketing may be one of the most important characters of a bulk shipping pool. From the point of view of the people other than the members, the shipping pools sometimes means an organization that the members cooperate in chartering business. Their feeling is correct. In most cases, the Pool Management Company (PMC) markets the fleet as a single, cohesive entity, which in fact is a chartering company responsible for the management of the commercial activities of the pool. Usually, the ships are traded under the name of the pool; their own identities become less important to the charterers if they know the ship is in a particular pool. The administration of a pool, there will be discussed in the later part of this dissertation, the distinction is made mainly between member-controlled pools and administration-controlled pools. The former has a relatively looser administration body than the latter.

4.3.5. Freight collection and revenue distribution

In administration-controlled pools, instead by the individual owners, the PMC will collect the freight by itself, after deducting commissions and the voyage cost incurred. The net result will be distributed to the members. It is logical for PMC to directly collect the freight, as the PMC that has direct contact with the charterers. In member- controlled pools, there may be cases whereby the members will directly collect the freight, after deducting an agreed allowance for running costs. The remainders will be turned over to the PMC and distributed again according to the agreed distribution formula.

4.3.6. Centralization of voyage costs

To achieve a stronger bargain power, all the voyage costs of the ships in the pool, such as bunkering, port charges, canal dues and agency fees, are to be paid by the PMC. Other capital and running costs, such as loan repayment and interest, manning, repair and maintenance and insurance are for the owner's account and should be directly paid by individual owners. The owner is responsible for manning and technical management of his own ships. However, it is not strange that sometimes, when the pool maintains its own management of its fleet, some members request to join the technical management to benefit from the low cost of the pool's general agreement with bunker suppliers and agent.

4.4 The main types of bulk shipping pools

There are three main types of bulk shipping pools in terms of organization structure – the consortium pool, the member-controlled pool and the administration-controlled pool (Ma, 1999).

4.4.1.The consortium pool

Consortia are a relatively new form of co-operation emerged mainly after the containerization revolution. In a consortium pool, individual owners remain in direct control of their vessels, instructing masters and carrying out all the duties that comprise the task of commercial management. However, the group uses a common marketing unit, which has an overall responsibility for ship's employment, fixing a variety of employment in both long and short term. This marketing unit also acts as the administrative hub of the consortium. Organizing regular meetings between partners. Members collect their own freights and hires and are allowed to retain a daily running cost element from earnings. Thereafter a variety of schemes can be used to divide the remaining profit, which is paid into a central fund. The distribution of the remaining profits are weighted in accordance with ship earning capacity and made at regular intervals to the owner of each participating vessel.

4.4.2. The member controlled pool

Investors who are not willing to undertake the responsibility of instructing ship's masters, organizing bunkers and other commercial arrangement activities, but who wish to have a direct control in the commercial destiny of their vessels may opt for member controlled pool alternatives. Here a central organization is set. Such an organization is responsible for all commercial aspects of the ship's employment including collecting revenues, covering expenditure and distributing the remaining profit to members. Owners are responsible for maintenance of and operating costs using cash received from the central administration. Of course, the administration will work under the authority set down by the members before hand.

4.4.3. The administration controlled pool

For those owners or rather investors who are not willing to bother themselves with ship operations may choose to be in an administration controlled pool. Here in administration is a profit center making policies and enjoy high level autonomy. The administration will decide to accept or not new members. Profit is calculated and

distributed to the owners as in the above cases but the method of calculation and the interval of distribution are decided by the administration. The pooling is thus a service at a price that owners are willing to pay for being members. Often this price is a percentage of the pool's income.

Among three main types of shipping pools, the consortium pools were in most cases mixed with other two forms of pools by outsider. Sometimes they were identified as member controlled pools, and in other cases, a consortium pool may finally become into one company. Therefore, in the following part, the discussion will mainly focused on the member controlled pool and the administration controlled pool.

4.5 The administrative structure of shipping pools

After establishment of a shipping pool, the pool manager normally will face the responsibilities, which were used to be handled by shipowners chartering department, operation department and port captain. Apart from this, the pool manager will also deal with financial and marketing issues. It is obvious that successful financial operation results and marketing strategies will lead to the two critical factors for the shipping company to succeed of getting financial support from bankers and secure contract of affreightment from Charterers. These intensive management tasks request that the shipping pools have an efficient organizational structure, otherwise, bureaucracy will be inevitable.

4.5.1 Pool ownership structure

The ownership structure of a shipping pool is rather complicated and not very easy for outsiders to examine. In administration-controlled pools, there is usually one dominant member, who has a good reputation and marketing capability. The purpose of other members to join the pools is to benefit from this member's

expertise. Therefore, it is neither necessary nor acceptable for the dominant member to show the identity of the less important member, the pool fleet will be traded under one single name; in this way, most of the members will not be visible for most outsiders. In member-controlled pools, the ownership structure for each member is relatively easy to be examined. However, in case one member is the share holder of another, or a joint venture company of different members, the difficulty to unveil the real identification is almost same as in the administration-controlled pools. More recent trends in pooling arrangement are the small pools partly or fully join a big pool. The ownership structure for such a pool becomes even harder to examine for outsiders.

In practice, there are unlimited numbers of various types of pool structures and it is impossible to describe every single form of arrangement that may be agreed between the members.

4.5.2 Management structure

A simplified but typical pool management structure is portrayed in Figure 4.1. It is not strange to see the similarity between traditional shipping companies and shipping pools. It will not be forgot, from the point of view of charterers. There is no difference to them when they select a big shipping company or a shipping pool. Therefore, the complexity of ownership structure and management structure of shipping pools should not endanger the efficiency of shipping pools as a working entity.

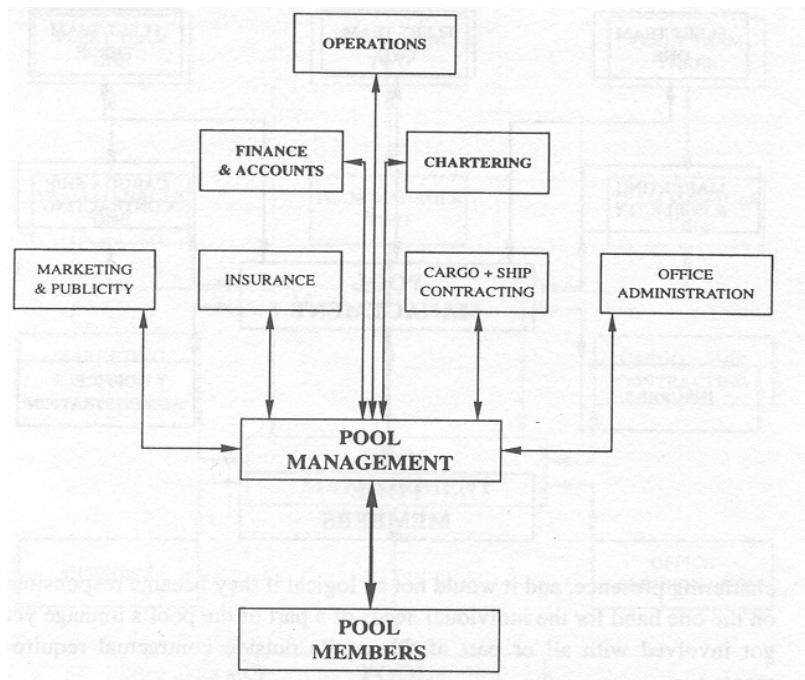


Fig. 4.1 : Internal management structure for large pools

Source, Shipping pools, Packard (1995)

Figure 4.1 indicates the typical management structure for large shipping pools. It is obvious there is no big difference with the traditional shipping companies.

4.6 Commercial and operation activities of shipping pools

Broadly speaking, the commercial and operation staff of a shipping pool must fulfil all responsibilities that will be taken by their counterpart in a shipping company. These tasks include signing charterparty (or COAs) with charterers, cargo handling, signing and releasing bills of lading, collecting freight and other incomes, agency appointments, bunkering, and legal affairs.

However, the complex ingredient of shipping pools determines that they must have a broader range of commercial and operational activities as a strategic co-operation entity.

To fulfill the aim of enlarging the long-term earning capability, the commercial and operation staff of a shipping pool has to make sure:

- Undertake and smooth fulfillment of contracts of affreightment.
- Eliminate circumstance of waiting for employment and reduce ballast legs to minimum level.
- Make full utilization of his pool's fleet; make full use of ship's carrying capacity, not part cargoes arrangement.
- Reduce ship's waiting time in port caused either by cargo custom clearance or by documentation
- Encourage back haul employment.
- Provide clear and comprehensive market information to every member in the pool.

Ship's financing, manning, insurance and technical management are often undertaken by the pool partners themselves.

4.7 Weighing and distribution system

The weighing and distribution system is the most significant characteristic of a shipping pool. Normally, under the weighing system every pooled ship is compared with a standard design vessel, typical to the pool, which is called as 'reference model'. The reference model has some ideal characteristics of pool-type ships. The standards of the reference model consist of design features, trading features and operation features, which indicate the earning potential of ships. Design features may include deadweight, draught, length overall, number of holds/hatches, hatch dimensions, carrying capacity, gear and speed and consumption. Trading features will involve special cargo –carrying facilities a vessel may have, for instance whether a vessel is equipped with Australia Ladder or with gantry cranes with grabs. Operation features mean the elements that affect the earning potential of pooled ships such as age, flag, crew nationality and trading limitation of ships.

Every pooled ship is studied according to the standards. Comparing these ships with the reference model, each ship can get different points in the pool, which is called weighing assessment. By putting all points together and calculating the weighing percentage of each ship in the pool tonnage (by specific formula which vary from pool to pool), the weighing factor of each ship can be accessed.

This weighing factor is the main basis of the distribution system. Distributions are composed of gross pool income, less pool operation expenses and management fees. In some administration pools, a 1.25% of commission shall be deducted from the gross pool income every voyage as the management fee of the pool management company. The final amounts to be distributed might also be subject to adjustment for off-hire of individual ship. Members of the pool can discuss the time of distribution in the pooling contract.

The pool's account should prepare a statement explaining the method of calculation and the performance of each ship during the period.

4.8 Pooling contract

Normally two main documents must be signed in a pool arrangement. The first one is the pooling agreement, which is signed between members of the pool. The agreement usually includes the duties of members and management, agency, weighing and distribution methods, accounting procedures, tonnage requirements, enter into the pool and withdrawal from the pool, vessel performance, insurance, indemnities and liabilities. Fleet list and description are often attached as part of the agreement.

Another main document is the master charterparty, which signed between every member and pool management company. This master charterparty defines the relationship between pool member and PMC. The main feature of the master charterparty is that it does not have fixed hire rate, which it is obliged to have according to the pool agreement

Chapter V

The rationale for bulk shipping pools

Shipping has a long history of cooperation; many ship owners found that by cooperating in different activities, they can achieve higher performance than performing those activities by their own. With its distinct characters, pooling arrangements are the most controversial topics in today's shipping business.

On the one hand, a substantial amount of ship owners and operators in north and west Europe, particularly in Nordic countries, are enthusiastic about pooling arrangements. It seems that they have strong belief that shipping pools will bring them a more stable and bright future. Large tankers and dry bulk carriers historically have rare presence in shipping pools. However, the latest development shows this situation will change dramatically in the near future. Big bulk operators in Norway and West Europe have set up big tanker pools and Capesize Bulker pools one after another. The newly established VLCC/ULCC pool -Tankers International – is convincing evidence that pooling arrangement would be a growing factor in their aim to achieve competitive advantages.

On the other hand, some players in bulk shipping have a long tradition of independent operation. They are confident of their own ability to survive in this fluctuation market, and some players really benefit a lot by utilizing their talent skills on judging the timing of shipping cycles. The most successful examples lie in Greece and the Far East. When they talk about pooling arrangements, few of them will believe synergy effects, on the contrary, they will suspect the bureaucracy of such a big organization and worry of losing their own identity by joint marketing. It is not strange these worries exist as the feature of pooling arrangement itself is double-edged. In the following part of this chapter, the advantages and the disadvantages of shipping pools will be examined comprehensively.

5.1 The advantages of shipping pools

The main advantages of shipping pools can be concluded as follows:

- Attracting Contract of Affreightment
- Risks reduction
- Rationalizing scheduling and enlarging flexibility
- Share of resources and technical know-now
- Overhead reduction and scale economy
- Speculation activity
- Ship financing

5.1.1 Attracting Contract of Affreightment

Contract of affreight (COA) is an agreement under which a carrier agrees to move a large quantity of cargo from one place to another. In most cases, a COA will be involved in series shipments for bulk cargoes. Most charterers of COAs are oil majors, steel mills and power stations; a COA is a basic tool to ensure constant availability of the raw material they need. Meanwhile, owners' long-term commitment in COAs is an effective way to hedge risks resulted from volatile shipping market. Therefore, COAs had been one of the most important forms of bulk shipping, among four basic shipping segments, three of them - industry shipping, special shipping and contract shipping are all more or less taken COAs as the basic for. If the owners can secure COAs, their exposure to the high risk can be reduced. As above mentioned, COA will involve large quantity of the cargo, highly reliable and flexible service level, thus, small- or medium-sized ship owners may find themselves in a hard position to fulfil their commitment in a COA, either in terms of carrying capacity or in terms of quality service level. Therefore, a large organization with high carrying capacity and reliable service level is the basic requirement for undertaking a COA. It is worthwhile mentioning that, one of the earliest bulk shipping pools, which was created by P&O group and Anglo-Norness Inc. in 1966, was just to obtain COAs.

5.1.2. Risks reduction

The ultimate aim for a shipping pool is to spread risks and enhance earnings of its member compared with those outside the pool. Securing COAs does not mean the pools have reached ultimate goals, long-time engagement in long-term contract may lose the opportunity to take advantage of the rising spot market. Therefore, it is by securing constant amounts of cargo from the industrial shipping, such as COAs on the one hand, and by securing all pool tonnage in short-, medium-term employment on the another hand. In this case, when the market swings upwards, the short term employed ships will be available to take advantage of hot spot market.

On the contrary, when the market falls sharply, the long and medium term employed ships will provide a financial buffer zone to the vessels encountered heavy losses in the spot market. What is interesting here to mention is that, COAs constitute mostly one-way-traffic. Only this kind of mixed arrangement can provide the opportunity to reduce ballast leg.

There is also another thinking as well. The earning capability of different members and different ships varies one from another, thus each individual has his own risks. By pooling member ships together and placing them under a common marketing, the unsatisfactory results of a particular ship can be compensated by the positive results of another. In this respect a pool is more or less same as a mutual fund whose risk is usually less than the individual risks of the assets it consists of.

5.1.3. Rationalizing scheduling and enlarging flexibility

For a large pool fleet, it will be easier to make full utilization of the ships and thus rationalize the fleet's scheduling. This optimization is usually achieved by securing back-haul cargoes, reducing ballast legs to the minimum level, and cutting idle time, reducing part cargoes arrangement. Unpredictable events are major reason for ship's delay. Rough sea conditions, labor dispute, port state control inspection, engine failure; all these could happen to a particular ship. However, from the standpoint of the stringent charterers or cargo owners, these uncertainties have few

impressions in their mind. They think the cargo will be shipped or delivered with no big difference with road and rail transportation. If this happens, except the very big shipping companies, there is no other shipping company that can solve this problem better than a shipping pool. The pool can arrange several substitute vessels from the different positions at the same time. This is not difficult for a big shipping pool, as there must be some open tonnage available most of the time or one ship at the same time with several alternatives to employ. The flexibility appeared here could be a critical advantage to maintain a stable relationship with enterprises with a global presence.

5.1.4. Share of resources and technical know-how

A large number of owners may see some attracting sectors for the employment of their ships, but they will find there is no chance for them to access these sectors at all. Some owners stay in a niche market and manage their business well, but when they find there are still a lot of business potential in other sectors, they may feel it is very difficult to expand their business to the new area with their own capacity. All these matters puzzle shipowners most of times. If they realized the significant of pooling arrangement, these problems could be solved relatively easily. Through cooperation between members in a shipping pool, the commercial and technical know-how of the established members are given a wider scope and can be used to the advantage of all members. Furthermore, pooling arrangements will in many cases boost the business potential of all members in other fields. The joint market force will achieve strengthened bargaining power when dealing with charterers, operators and owners.

5.1.5. Overhead reduction and scale economy

Irrespective of different sizes, every ship-owning company has to set up an administrative body to fulfill its shipping management function. This will involve commercial, technical, financial, manning, insurance and legal affairs. A combined organization can cut overheads of these functioning departments to a large extent, and meanwhile, increase efficiency. The purchase power of

a large fleet is also considerable. The supply of spares, stores and provisions can be rationalized and sheer volume means additional discounts in many cases. Service industries, such as shipyards, are more likely to discount costs for potential volume use of facilities. Crewing is another area that can benefit from fleet size. This is one area where the present day obsession with crewing costs could usefully be re-focused on the quality of crews rather than their wage bills. It is difficult to put a value on the quality of seafarers which can be expressed in monetary terms. Suffice to say that the cheapest crews frequently lose operators' money by inefficiencies, which are not obviously or properly reflected in an accounting ledger. Experience shows that by giving crew members proper training and a career structure with reasonable job-security, the owner will be rewarded with an efficient and happy ship. The fleet's overall expense should be lower than that of a rival ship operator concentrating solely on obtaining the lowest wage bill. A small shipowner has little alternative but to find a crew where possible.

Insurance can also be trimmed. For example, with a large fleet, a degree of self-insurance is possible. Why pay out large premiums when these may be channeled into a fleet fund sufficient to cover the risk of routine accidents and mishaps. Such a fund can also earn interest while it is deposited, thereby helping to reduce insurance overhead even more.

5.1.6. Speculation activity

The shipping business is very uncertain and unpredictable. To survive in this segment of the industry, some speculation activities must be conducted. However, to succeed in this game, the participants must have some forecasting skills and a slice of good fortune. In the meantime, they must have solid financial reserves to fall back on, both to cover themselves when in error, and to provide funds to bridge resource to the fiscal gaps that occur when there is liability to pay hires. To succeed in speculation activities, a quick decision-making mechanism must exist, the success of numerous Greek brother companies in asset play games could be clear

evidence. It is arguable that a shipping pool can succeed in speculative activities with its complex organization structure. However, in some administration-controlled pools, the PMC or the dominant member may have the benefit of quick-decision process, either on behalf of the pool or on their own. In this case, combined with the strength in their financial capability and technical know-how, a reasonable and limited amount of speculation activity could create another opportunity to improve its profitability. Every shipping pool has sufficient financial reserves – it is both a security measurement for daily operations and a precondition for a member to join the pool. With assistance of skilled operation staff and these reserves, the pool staff can act as charterers, or disponent owners, charter in or out the ships according to their judgement to the market evolution. If they can make full use of the precious resource in their hands, which is hard to imagine for a small ship owner, the financial return for these speculation activities will not be underestimated. The unpredictable features of the bulk shipping business makes it is very difficult to take right decisions at the right time all the time, but to be a winner in this game, it is vital for a participant to have a higher vision to make plans in a longer perspective. A shipping pool with its wide coverage as both shipowners and charterers, and with opportunities that arise from this advantage, is ideally placed to take a global perspective of international shipping. It is up to the pool manager to see that his staff and members make full use of those treasures.

5.1.7. Ship financing

Benefits in financing, rather than in operations, were also highlighted as the driving force behind pooling and other forms of consolidation. In a recent analysis by the leading Norwegian shipbroker P.F.Bassoe(2000), the benefits of economies of scale do become evident. The broker stated the following:

Commercial banks have made a marked move-to-size, as lending risk is perceived to be lower the larger the client. Further, international equity markets require a market capitalization of a minimum US\$0.5 billion to US\$1 billion to put a company on the map. Source of capital

may therefore represent the strongest case for a continued consolidation process, as small and/or private companies decide to close down, sell off or merge – as an alternative to continue hurting from low profitability and lack of capital.

5.2 The disadvantages of shipping pools

Not all shipowners are willing to accept the pooling concept. As a matter of fact, bulk shipping is still dominated by independent shipowners. In 1995, the top 20 largest tanker shipping companies only represented 36.5% of the world total tanker fleet in terms of deadweight, and 10.2% in terms of ship numbers (Lloyd's World Shipowning Groups, 1995). This fact clearly indicated that there must be some constraints under pooling arrangements. Several disadvantages will be discussed as follows:

- The fear of losing shipowners' identity
- Decision making process
- Unfair distribution of profits
- Long-term commitment
- Loss of market presence of know-how
- Cultural differences

5.2.1. The fear of losing Shipowners' identity

Historically the shipping business was a family dominated business. Both in liner and bulk shipping sectors, family-owned shipping companies play an important role. Those independent shipowners mostly have talents in certain areas of the shipping business except in teamwork. But deficiency in teamwork seldom prohibits them from becoming success players. After they succeed, these family-owned companies always treat their family names as the companies' treasure and pride. Joining a shipping pool means individual shipowners must more or less give up some of their families' identity. For those proud owners, it is hard to accept this degree of

sacrifice. As mentioned earlier, it is an unfortunate fact that this kind of shipowner is the main body in the bulk shipping business.

5.2.2. Decision making process

Timing is a prominent factor that determines success or not of a shipping company. The most important points for the shipping cycle are near peak and trough points become important decisions have to be made in these periods. However, the short peak and trough period of the cycle will not give decision-makers too much time to discuss. To an independent shipowner, he can easily make decisions quickly, without discussing or explaining to anybody. To a shipping pool, it is hard to solve this problem in such a simple way, which means the pool manager has to spend lots of time to discuss with various members and the board. This is one of few reasons why the intelligent and experienced Greek owners seldom join shipping pools.

5.2.3. Unfair distribution of profits

Not every member can bring the same asset and knowledge to the pool. Except in the dominant members controlled pools, some members complain that they bring more customers to the pool or their tonnage earn more profit for the pool. In this way, they just compensate those poorly performed members. The sophisticated commercial factors of a ship can hardly make the weighing system distribute the profits to satisfy every member. If the understanding can not be reached, this will lead to some members' leaving the shipping pool or even dissolving of the shipping pool.

5.2.4. Long-term commitment

Most pooling agreements will need member's long-term commitment. In some pools the term of notice is half year, while in most others, it will be two or three years. In such a long time, some owners may not be satisfied with the pool or there are some structure changes on their own side, they want to leave the pool. If such things happened, it is a long procedure for them to leave. For those asset players, this

long-term commitment to the pool means they will lose the chance to earn money completely. This is another important reason why Greek shipowners have low interest in joining a shipping pool.

5.2.5. Loss of market presence and know-how

In an administration controlled pool, all marketing and operation work has been taken over by the pool, thus the individual shipowners will suffer a substantial loss of market knowledge and contacts. The shipowners' personnel may become superfluous or dismissed. If the owner want to leave the pool, there might exist too many obstacles preventing him to leave; thus, he has to completely rely on the pool.

5.2.6. Cultural differences

Shipping pools are usually a multi-nation organization. In some countries, commercial companies are organized in very hierarchical ways with the chief executive officer and senior managers holding and exercising a great deal of authoritarian power over their subordinates. In other countries, commercial companies are organized along participating lines. This difference, as well as the language, and the way of thinking may cause trouble for internal communication and decision making in the pool's management, especially in member controlled pools.

The above pros and cons analysis can hardly cover all aspects of advantages and disadvantages of a shipping pool. Every individual shipowner may have different opinion from his own angle. By realizing this, it is not be strange if there are some arguments. One argument is that charterers will be hostile to a shipping pool as they prefer to avoid upward pressure on freights by undermining the potential power of a large pool structure by pursuing a policy of favoring outside tonnage. Others will argue the reverse is true; they claim charterers prefer the well-organized quality tonnage that most pools can provide. Frequently charterers pay no more for pooled tonnage than for singleton ships.

On the other hand, it can not be denied that in some special markets, such

enhanced bargaining power of shipping pools may push some charterers to shift their target to relatively weak-positioned owners that are out of big organizations. The point to be emphasized is that, owing to close pool-charterers' relations, in bad times it will often be the pooled vessel that will secure a solitary market cargo and the outside competitor who remains idle. However, in a better market situation, a lot of members will strive to leave the pool in order to take advantage of the improved spot market.

Such kind of disputes may arise here and there. Different players standing in different angles may have different opinions, but the overall trend in bulk shipping is consolidation and further consolidation. The consolidation process itself can be improved with more participants involved and new ideas and innovations will bring fresh air to this process. This trend is expected to last in a foreseeable future.

Chapter VI

Bulk shipping pools in different segments

One main feature of bulk shipping pools is to pool similar vessels together; therefore, it is logical to study the shipping pools on the basis of different segments they are engaged in. In this chapter, the main segments of bulk shipping and the historical pooling presence in each sector will be described. Main shipping pools are listed, which this writer hopes it could cover most shipping pools in the real world.

When studying the shipping pools, there are other closely related concepts such as merger and acquisition, which are also under the concept of consolidation. The trend of consolidation is now overwhelmingly prevailing in the fast changing world and there is no exception in the shipping industry. The media and press are full of new mergers, acquisition and pooling arrangements. For those new consolidations, it is very difficult for outsiders to examine precisely which case is merger and which case is pooling.

From another angle, some of these consolidations are mixtures of merger and pooling; the purpose is just to achieve higher competitive advantage through the new integrated entity. In this sense, the impact of mergers and acquisitions needs to be examined as well. In the attached list of shipping pools, the writer attempts to give a clear look at the existing pools and some recently dissolved pools. However, as far as resources available, there is lack of reliable access to reveal the genuine ingredients and property share of the organization. Most information comes from the shipping press, and partly from old statistics. Therefore, it is not strange some arguments will arise when reading this list. The purpose of the writer is to provide an overlook of pools and the evolution of strategic cooperation in bulk shipping.

6.1 Dry bulk carriers:

Based on different sizes, dry bulk carriers are divided into four groups, Capesize (100,000+ dwt), Panamax (50-80,000 dwt), Handymax (30-50,000 dwt), Handysize

(10-30,000 dwt). Traditionally, the Handymax and Handysize can all be concluded in Handysize. As of early 2000, the total deadweight of the world dry bulk fleet is 256 million and 33.5% share of world total, with an average of 15 years; the surplus of demand in recent years are ranging from 7%-10%(ISL Bremen 2000).

6.1.1 Capesize

Employment of the Capesize fleet lies almost completely with the iron ore and coal business, with low value and homogeneous service requirements. The economies of scale in terms of ship's unit loading are vital; one big unit loading can cut the unit shipping cost to one third of smaller sizes. From this point, the major part of Capesize tonnage belongs to the commodity shipping segment. Apart from the iron ore and coal trade, there are a few chances for this kind of ship to engage in minor bulk or grain trade as well. The demand drivers come mainly from integrated steelmaking operations and their need for iron ore and coking coal. Some seam coal shippers and steel mills also own Capesize tonnage. Traditionally, the Capesize market has the purest feature of free competition. This was the direct result of less diversified commodities in demand side, as majority of the cargoes carried by Capesize vessels are limited only to iron ore and coal. The only service requirement for large quantity of bulk cargoes is quick handling of the cargo. There is no other sophisticated services needed, thus, the homogeneous service level is another important reason for severe competition in Capesize. Small independent Capesize owners play an important role in this sector, and co-operation between shipowners is really rare.

The pooling arrangements in this sector are less than in other dry bulk sectors. Nevertheless, the latest development in demand sectors is now pushing shipowners to pursue more cooperation. The consolidation in steel mills, power station and grain house make the demand side possess even strong bargaining power. The long-lasting cut-throat competitions among shipowners has eroded the ROI to record low. To fight against this inferior position, more and more shipowners begin to think about consolidation on their own side as well. This kind of consolidation can be developed in two ways, either some player pooling together to form a new pool, or join the

existing Capesize pools. A remarkable development in this sector, both in terms of Capesize market and consolidation, is the alleged possible pooling arrangement between Capesize giant Bocimar, AP Moller and Overseas Shipholding Group. If this pool is formed, it would control 50-60 Capesize vessel, which will represent nearly 50 percent of the world's total Capesize spot fleet. "Yes, I think it's a good idea. In any market, the trend of the day is consolidation. It is the true answer to the clients, be they oil majors or steel mills. " said Bocimar's Marc Savories to the press. If this pool can be set up someday, it will lead to a big change of the Capesize dry bulk market in future. The impact of such a pool will attract interest of all players in this sector. Norwegian operators have historically had a strong position in Capesize.

6.1.2 Panamax

The main customers of Panamax services are the steel industry buying coking coal, state owned power stations buying steam coal, multinational grain houses, or national government agencies buying grain. The last decade has seen a fundamental change in the market status of Panamax carriers. Panamax carriers are much more equal in design with handysize ships and therefore the market's traditional workhorse has been the smaller handysize ship. However, today, the term workhorse sits more easily with the Panamax. Certainly, the employment base for these ships has widened.

The other significant factor that that been indicated by broking sources is that most Panamax business gets reported. No sector of the dry bulk market could claim to be anywhere near being fully transparent but the Panamax sector can claim to be "as good as it gets". The transparency of the market and the competition from Capesize and Handysize segments also make this market experienced in severe competition. The consolidations in this segment have a longer history; there are a substantial amount of large operators. These big operators are the mixtures of private companies and shipping pools. They are mainly engaged in COAs and other long-term contracts, while the smaller companies operate in the voyage market or through pools to be able to compete with the larger operators. The Far East owners play a dominant role in this sector and other important players are mainly from

Norway, Greece and the UK.

6.1.3 Handysize

According to ISL Bremen 2000, the Handysize fleet consisted in early 2000, of about 3,361 vessels with a total deadweight of 103,250, representing 58% and 40% respectively in terms of vessel number and deadweight. As discussed earlier, Handysize carriers are traditionally workhorses of the dry bulk market. Effective operation of handysize vessels can be obtained provided someone has market knowledge and good customer relationship. Shipbrokers are in a good position to own both of these, with low investment cost so it is not strange that shipbrokers can enter into this market as owners. There are several examples of brokers involved in this market.

However, it has been undergoing a transformation from a fairly transparent sector to a niche market environment. As a result, it has become increasingly difficult to monitor rate trends. Potential entrants to the conventional Handysize segment are many, while fewer to the more specialized vessels. Geared bulk carriers, as one of the main specialized market in handy-sized are those vessels, which were equipped with shipboard cranes or derricks for the loading or discharging of cargo. Loading or discharging by means of ship' cranes or derricks fitted with grabs is normally a comparatively slow means of cargo handling, most useful in ports which are poorly equipped for handling bulk cargo. Among the few most successful players in handysize markets, most of them are this kind of specialized geared bulk carrier.

The Norwegians and the Greeks are both important players in this market. Norwegian Handysize owners historically have had their focus more on high tech and advantages through new technical solutions, as well as through pooling arrangements. The pooling arrangement has become one of the main features of Norwegian Handysize operators.

The main dry bulk shipping pools are listed in Appendix 1.

6.2 Tankers

Generally, tankers carry two basic cargoes:

- a. Dirty cargoes, including crude oil, asphalt, fuel oil and some gas oils.
- b. Clean cargoes, including particularly petrol and kerosene.

This division is due to technical and economic reasons. A crude carrier cannot be easily loaded with oil products because it must first be carefully cleaned of crude oil residues and because oil products are delivered in smaller quantities directly to consumers. Thus, product carriers are relatively small ships compared to crude carriers. Apart from these two basic categories, there are also the so-called special carriers, for example parcel tankers for liquid chemicals of various kinds. These ships can often carry a great number of such chemical products of different kinds at the same time. The size of this type of vessel about equals that of the product tanker. The gas tankers form a special class and the vessels are called LPG (Liquefied Petroleum Gas) and LNG (Liquefied Natural Gas). But LPG and LNG are always arguably classified into special shipping due to their high newbuilding price and special trading pattern. In this dissertation, they have also been classified into other special bulk shipping. Up to early 2000, the world tanker fleet was made up of 296 million dwt, 39% share of world total fleet, with an average age of 18.1 years.

6.2.1 Crude oil tankers

Crude oil tankers are used for transport of the “dirty cargo”- crude oil from its production area to its processing area. Crude oil tankers are the most appreciated of scale economies. Their size reached up to about 560,000 dwt in the late 1970s. After the first oil crisis, with new discovery of oil fields such as in the North Sea, as well as encouragement of energy saving, the transport distances and quantities decreased and the super tankers were no longer profitable. According to the size, the crude oil tankers can be classified into following 5 categories:

ULCC: ultra large crude carrier, ranging from 300,000 to 560,000 dwt

VLCC: very large crude carrier, ranging from 200,000 to 300,000 dwt

Suezmax: the largest size tanker capable of transiting the Suez

Canal, ranging from 100,000 to 150,000 dwt.

Aframax: ranging from 75,000 to 99,999 dwt.

Panamax: the largest size tanker capable of transiting the Panama Canal, ranging from 55,000 to 70,000 dwt.

6.2.2 Product tankers

Product tankers are used for the transport of refined oil products. They transport oil products from the refinery to the customer. The average product tanker is much smaller than the average crude oil tanker. The deadweight does not exceed 150,000 tonnes. Product tankers have a relatively large number of tanks, so that they are able to load many different cargoes at one time. Subsequently, they are equipped with a very complicated piping system. Some product tankers can also transport chemicals.

6.2.3 Chemical tankers

Chemical tankers are designed for 'noxious liquids', as described in MARPOL. Chemical cargo tanks are constructed from either mild steel or stainless steel. The mild steel tanks must be protected by a coating of alloy or rubber. Stainless steel tankers are very expensive, but can handle all cargoes. The distinction between stainless steel chemical tankers and vessels with coated tanks can be of great importance. The deadweight of chemical tankers are usually less than 50,000 dwt.

One dominant character of the tanker market is that, there are few big charterers but a lot owners. This characteristic has made the tanker market extremely volatile, and of course, the lowest return among all shipping markets. The far more fragmented tanker market jeopardizes owners' interest in two aspects. First, it puts them in an unequal position when dealing with oil majors and, secondly, it is unappealing to institutional investors who witness the disdain shown to low market capitalization shipping stocks.

By realizing this, some participants began to make efforts to change this really bad

situation from the late 90's. Mergers, acquisition and pooling arrangement in the main tanker markets are reported frequently, in the first few months after stepping into the new millennium. It is not surprising to see mergers, acquisition and pooling arrangements in these segments every one or two weeks. Asset-play strategies are no longer viewed as viable in the tanker industry. The leading banks are now looking for owners who can build a profitable trading operation. Banks are now turning to focus on marketing operations that show the potential to develop an enterprise value over and above the underlying value of the assets. The main shipping pools in the tanker markets are listed in Appendix 2.

As shown from the pools listed in Appendix 2, the chemical tanker market, unlike the mainstream of the tanker market, has relatively more pools if comparing its size with crude oil market. This is attributable to its long history of cooperation and pooling. With the high cost of the carriers, the owners are exposed to high commercial risk if they can not secure stable freight incomes through certain kinds of co-operation.

With a combined market share of almost 50%, Stolt-Nielsen and Odfjell are obviously the two dominant players. These two companies have been using the poor freight rate environment as an opportunity to further entrench their leading positions by buying, or entering pooling arrangements with, small and weaker competitors.

6.3 Other special bulk shipping markets

Other bulk shipping markets, which have special operating patterns and exist in certain niche markets, fall into this category. Mainly reefers, car carriers and gas tankers are included.

6.3.1 Reefers

Big scale reefer trading is basically a worldwide operation, but this sector is nevertheless very much a closed one. There are only a few owners, charterers and brokers who devote themselves to this market. The charterers are usually big

organizations. The brokers in this sector are less important as charterers and owners frequently have direct contact. The reefer trades are in practice one-way routes; therefore, there is a huge imbalance, not only geographically in the distribution of the loading and discharging areas, but also seasonally with so-called high seasons and low seasons in different months of the year. Reducing ballast legs and full utilizing carrying capacity are the two critical premises to achieve a good return. The world total reefer fleet is about 1,300 vessels with 7 million dwt (ISL Shipping Statistics Year book 1998). Some reefer operators can arrange to carry cars to reduce their ballast voyage.

6.3.2 Car carriers

There are similarities between the market of reefers and car carriers. It is also a very closed market not using brokers much. Most businesses are concluded on the basis of long-term contracts. The number of vessels employed on a worldwide basis is about 500 to 600. The most important trades are within the range of Japan-Korea, United States and Europe. The trade in big volumes are usually served by the tailor-made vessels - Pure Car Carrier (PCC) and Pure Car and Truck Carrier (PCTC), each with a capacity of about 2,000 to 6,000 units. With few players inside the market, car carrier owners and their customers entered into a very close co-operation; the owners usually undertake extended services.

6.3.3 Gas tankers

The gas tankers, LPG (Liquefied Petroleum Carrier) and LNG (Liquefied Natural Carrier) carriers form a special class not only as far as construction and classification is concerned but also in the fields of other aspects. One 125,000 cubic meter LNG ship may cost 350 million US\$ to build. At such a high cost, no owners and banks would like to take the risk to build such a vessel for speculation purposes. Most trades of LNG are long-term contracts which may have been fixed long before the construction of the new ship. LPG carriers go up to 70,000 dwt and LNG carriers up to 85,000 dwt. The combined LPG and LNG fleet in 1998 was about 1,000 ships with 16 million dwt. (ISL Bremen 2000)

All special bulk shipping markets discussed above have common features such as few suppliers, low competition and scale economy, therefore, they should belong to industry shipping or contract shipping. In this sector, owners seem likely to have more chance to think about pooling their ships to satisfy the charters with more flexible and reliable services. In the real world, the continuous process of consolidation, such as pooling, merger and acquisition in this sector have created a more order market. In 1999, the top 2 reefer carrier- Unicoool and Seatrade, both of which are reefer pools, achieved a combined market share of more than 50%, and in the car carrier market, the top 3 players also controlled a market share of over 50%.

The main shipping pools in this sector are listed in Appendix 3.

Chapter VII

Analysis of bulk shipping pools

Due to the limited access to the information of the bulk shipping pools. The lists of shipping pools in appendices 1, 2 and 3 do not reflect all the information accurately. Most of the information is abstracted from the articles that do not mainly deal with shipping pools. Some of the information collected from different sources was paradoxical. Despite these difficulties, through a complicated survey of the relevant information in Lloy's List and Tradewinds archive, the author believes the list which includes 59 bulk shipping pools is at least representative of most of the main bulk shipping pools in the industry. In 1974, H.P.Drewry (Shipping Consultants) Ltd. published "Bulk Shipping 'Pools' and Consortia", thus far, it is one of the few publications that had thorough and authoritative statistics of bulk shipping pools. It obvious is that the statistics in this book has been outdated, but if making a comparison of the pools in 70's with the pools of today, it will provide a clear vision of the evolution of shipping pools.

In the following part, the main status of bulk shipping pools will be examined mainly on the basis of Appendices 1, 2, 3 and the Drewry's statistics in 1974.

7.1. Size of shipping pools

.Table 7.1 Comparison of size of shipping pools from a historical perspective

	No. of vsl	1-9	10-19	20-39	40-69	Over 70	Total	Average vsl/pool
Today	Pool no.	8	17	17*	11**	6	59	32.4
	Share	13.6%	28.8%	28.8%	18.6%	10.2%	100%	
Drewry 1974	Pool no.	13	6	5	2	Nil	26	15.2
	share	50%	23.1%	19.2%	7.7%	nil	100%	

* Ship Number of Universal Reefers is unavailable; the figure is an estimation between 20 to 39 vessels according to its market share.

** Ship Number of Lauritzen is unavailable; the figure is an estimation between 40 to 50 vessels according to its market share.

Source: Own calculations, based on appendices 1-3 and H.P. Drewry , 1974

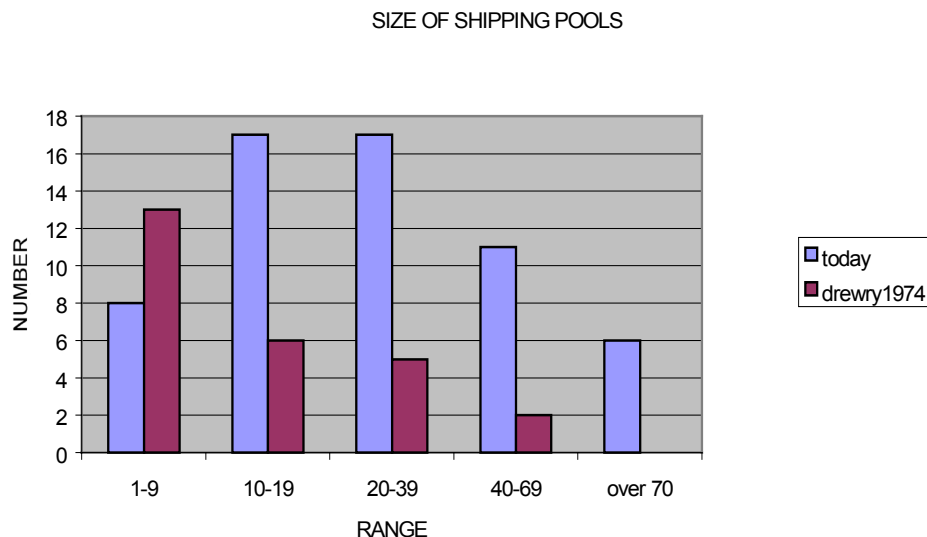


Fig. 7.1 : Size of shipping pools

Source : Based on table 7.1

The size of shipping pools is determined by the number of ships, as it make no sense if comparing a VLCC and a geared Handysize bulk carrier in terms of dwt. The comparison is made between the shipping pools listed in Appendices 1,2 and 3, and in “Bulk shipping “pools” and Consortium.

In 1974, the small pools played a dominant role in pooling arrangement of that era. There are few pools with size over 40 vessels and no such pool operated more than 70 vessel at all. The average size of shipping pools in 1974 was 15.2 vessels, but it changed to 32.4 vessels in today's shipping pool. It is not surprising that the growing size of bulk shipping pools has become one of most significant changes. As it is only in big size, the pools will fulfil their commitment to the customers with high flexibility and reliability.

7.2. Member of bulk shipping pools - West vs. East

Today, no one will question the important role of Far East shipowners in the shipping business. In the bulk shipping business, the Far East ship owners are active in most areas and have proved to be very successful. There are numerous examples of big bulk operators, such as World-Wide Shipping Agency of Hong Kong, NYK of Japan, SK, Pan Ocean of Korea, Cosco and China Shipping of China. However, when talking about the pooling arrangements, the presence of Far East members is not in proportion to their role in bulk shipping. In contrast, the pooling concept is prevailing in West Europe and Scandinavian owners and they have achieved a dominant role in this area. This could be proved by the two statistics, in 1974, among 26 shipping pools, there were only 3 pools with Far East owners' presence, and they were all Japanese owners. In the list of today's shipping pools, Far East shipowners controlled only 5 pools, in the other 5 pools, they are main members. All the other 49 pools are controlled by European shipowners. Greek owners are more or less active participants in the shipping pools; nevertheless, when compared with their northern counterparts in Scandinavia, their importance could be shaded due to their high interest in asset play. The following reasons can be the main cause of such a situation:

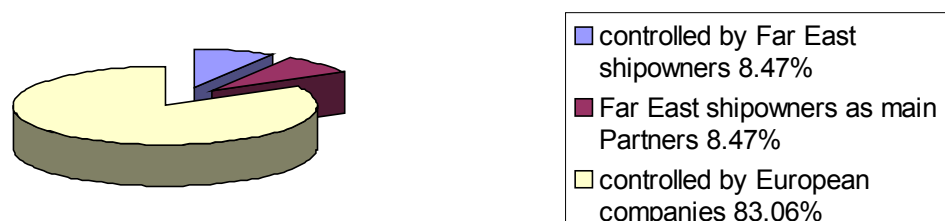


Fig. 7.2 : Geographical distribution of shipping pools

Source: Own calculations, based on appendices 1-3

1. Cultural differences

It is evident that cultural differences are one of the most important factors that cause different opinions in pooling of ships. An example is Unicoool pools. In its Cool Carrier fleet, there are 4 vessels from another pool operator – Lauritzen Pool, which is one of its biggest competitors in reefer shipping. This kind of co-operation is extremely rare in Far East. Shipping pool operation is a team –work; the trust between the members is the corner-stone for this kind of co-operation. In North and West Europe, co-operation has long existed in most sectors in the modern industry and most players have realized the importance of co-operation. The language and behavior differences are not so significant as in the Far East, as the geography boarder of each nation is near and the people of different countries have lots of chance to contact different cultures and people. It is quite different in the Far East, where most of countries are separate either by the ocean or high mountains so there is little chance for civilian contact. It is hard to build up trusteeship between the people of these countries.

2. Patterns of trade

In the Far East, most participants of the industry have their own share of the market from their original. The trade volume of the area is big and the owners can catch business opportunities at their own efforts, either through local trading houses or through local governments. The shipowners in North and West Europe seldom have such chance; the main area they engaged in the shipping business is cross trade, which means they must secure cargoes for their ships from parties other than in their own countries. Under this circumstance, all participants must be very clear in their mind that co-operation is a better way to achieve their common goal and protect their interest as a whole. It worthwhile mentioning that the cross trade is also the main source of income for Greek owners, but their talent in asset playing made only few of them have interest in pooling.

3. Similar size

Most shipping pools were initially created between two or more partners with similar scale. In that case, the pool members could be treated equally. In the Far East, the big shipowners were usually backed by the governments, or they worked exclusively for big trading houses. Thus, in most cases, they were born to be giant and have less interest in co-operating with other partners. When consolidation was considered, the first choice for them would most likely be acquisition or merger. Pooling arrangements were considered as an alternative only when they wanted to penetrate a new market.

There may exist other reasons that make Far East owners have less interest in pooling, but with the trend of globalization, they must feel the pressure from their western counterparts. From the Appendices it is clear that their role in pooling has become more active than in the 70's. In the near future, it is expected to see a further development of their role in pooling arrangements.

7.3. Types of shipping pools in terms of cargo category

In table 7.2, the number of shipping pools was classified on the cargo basis. A similar position could be observed between Handy pools in dry bulk and product/chemical tanker pools in tanker. Shipowners in these two sectors have a

Table 7.2. Comparison of type of shipping pools

Type	Dry bulk shipping pools				Tanker pools		Specialized pools		
Segments	Capesize	Panamax	Handy	Others (OBO)	Dirty oil tankers	Product/chemical	Reefers	Car carriers	Gas carriers
No.s	4	5	12	5	7	22	6	2	6

Source: Own calculations, based on Appendices 1-3

leading role in each sector. Handysize pools were one of the earliest sectors in pooling arrangements. Most of the handysize pools are equipped with special gears. The product/chemical tanker pools have a relatively high cost and small market; the pooling arrangements will reduce the risks exposed to the shipowners. The same reason is also applied to specialized shipping sectors of reefers, car carriers and gas carriers. The small share of big bulker and large tanker pools is due to their homogenous character of the service. The economies of scale are not so important in these sectors.

7.4. Performance of shipping pools

All pool members hope to get a high earning capability before they decide to join a pool. In practice, most pools set a benchmark of their earning prospectives for a certain period of time. This benchmark rate of earning is always higher than the market average. Before a new member enters into a pool, one of the main considerations is to compare this benchmark with its earning capability on its own. As introduced in Chapter V, shipping pools can always take advantage of high utilization of cargo space, reduce overhead, shorter ballast voyage, stable income and enlarged bargaining power, therefore, it is not strange that, if a pool is operated properly, its earning capability could finally reach the high benchmark rate.

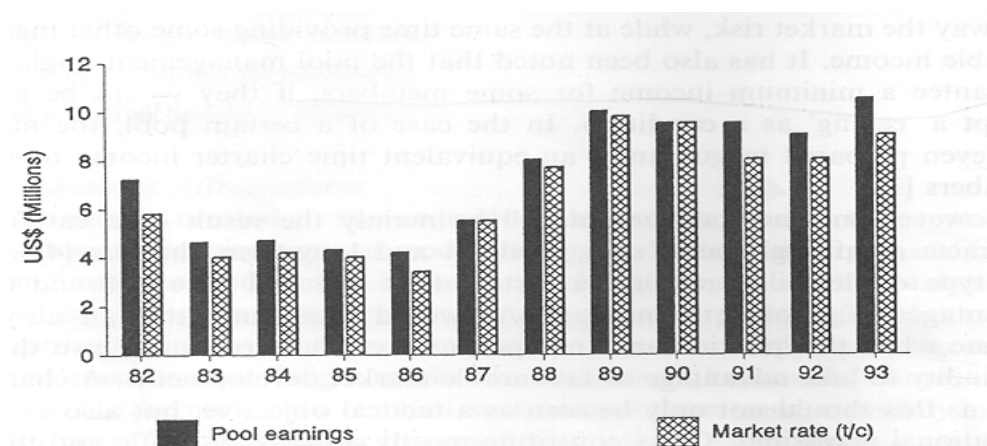


Fig. 7.3 : Average annual pool earnings compared to 12 months time charter earnings.

Source: Economics of bulk shipping pools (Haralambides, 1996)

Figure 7.3 is an earnings comparison between the Western Bulk Carriers pool and the market average medium T/C. It indicates most of times that the pool earnings are higher than the equivalent time-charter earnings. A more recent example, is the leading Panamax tanker pool - Star Tankers pool. This pool was formed in 1997, and now has 10 members, headed by Heidmar of Greece. As of mid-2000, there are total 39 Panamax tankers under its control, representing 30% of the market share in the North Atlantic and Caribbean area. In Table 7.3 the selected period from 4th quarter of 1998 to May of 2000 represents a cycle period from trough period with an upturn up to very recently.

Table 7.3 Comparison of Star Tankers pool's earning and spot market rate.

Period	Pool Earnings (US\$/day)	Spot Market Rate (US\$/day)	Pool's / Market's income Ratio
4 th Quarter, 1998	12,000	8,000	150%
1999	10,957	7,805	140%
1 st Quarter, 2000	14,057	13,773	102%
May, 2000	18,034	15,368	117%

Source, Wang Haifeng compiled from various news presses

From Table 7.3, the following facts can be seen:

1. Over a period nearly 2 years, the pool earnings are higher than the spot market rate. The high is 50% and the low is 2% over the market average.
2. In bad market times, the pool's advantage is more obvious than in good times. This in practice can be proved by the fact that most pools were formed in low market times.
3. Over the period, the market changed 92%, from US\$8,000/day to US\$15,368/day; however, the pool earnings changed only 65%, from US\$10,957/day to US\$18,034/day. The function of income stabilization and risk spreading can be supported by this.

7.5. New trends in large tanker sector

Large tanker operation is one of the purest commodity shipping. The homogeneous pattern of its service make less space for economies of scale. The small tankers owners have played an important role in the tanker business. In 1995, the top 30 largest tanker companies controlled tonnage was less than 50% of the total market. The largest tanker owner had a market share only at 2.7%, which was rare in most other sectors of shipping. In fact, these vessels can be operated equally well on an individual basis and the pooling arrangement would be very much of a parallel to conventional shipping companies. Previous attempts to set up large tankers, especially VLCC/ULCC pools have been really rare. In 1995, a radical plan to set up a pool of VLCC and ULCC in an attempt to restore the tanker market to health was proposed by the leading tanker owner World-Wild Shipping Group, but the ambitious initiative failed, as there were few players sharing their opinion. This situation was dramatically changed with the emergence of VLCC tanker pool -Tankers International. On February 15 this year, six big tanker operators, Front line, Osprey, A.P.Moller, OSG, Euronav and Klaus E. Oldendorff formed a pool of 50 VLCCs. It is the first time in history that one single independent tanker operator has a market near 10%. If making a comparison of the oil tanker fleet between 1995 and 2000, there is no big change, both in terms of ship's carrying capacity and market share. In 1995, the world total oil tanker fleet was composed of 6,496 vessels and 270,921,000 dwt; it respectively represented 17.9% and 39.7% of the market share. In early 2000, the world total tanker fleet was made up of 7,195 vessels and 296081,000 dwt, which represent a market share of 18.5% and 38.9% respectively. (ISL Bremen2000) Therefore, the major change must be brought up from the demand side, the following reasons can be attributed to the change:

1. Merger of oil majors

In recent years, there have been fewer major charterers in the tanker industry. This was noticeable as BP and Amoco became one; Total, Fina and Elf co-exist;

Exxon and Mobil share intimate facilities and then merged; many Japanese charterers appear as behemoths. Historically, there were 10 owners chasing every cargo and now, there are 15. If the tanker owners had not signed up, the powerful oil majors seem very likely to maintain the low market for a couple of years.

2. High level of service

With the strengthened position after merger and oil majors moved away from potential liability, a defined service as required to be provided more and more by companies that are able to produce an overall product. The high flexibility and reliability, which can only be guaranteed by the big operators, are the basic preconditions for such a product.

3. Increased demand

The demand growth brings more employment opportunities to the large tankers. VLCCs have increased their share of their cargoes from 29% in 1990 to 37% in 1999; however, the growth of VLCC tonnage can not catch this step, which means the utilization of cargo space must be rationalized. Only in big organizations, such as big shipping pools, the rationalization of carrying capacity can be justified to a satisfying level.

4. Quality ships

Most small ship owners operate substandard ships. To join a shipping pool, the condition of the ship must meet the entrance requirement, which is usually at a higher level compared with average ship condition in the market. This is one of the reasons the tanker owners reject the proposal for pooling. With the implementation of new IMO conventions and the ISM Code, and as well as oil companies' concern about the ship condition. Substandard ships will accelerate their withdrawal from the market therefore the growing quality ship owners have no worries when they think about joining a shipping pool.

5. Charterers' attitude

At present, the oil majors need not worry about the potential monopoly position gained from this consolidation process. Compared with the total 430 VLCC vessels, less than 10 percent of the market share can make charterers bypass VLCC pools and chose other owners. No one could cause major oil companies sleepless nights: Exxon/Mobil has a similar sized fleet.

6. Long time recession

Long time recession of the oil market in the 90's has made the tanker business one of the lowest return businesses. All participants feel high pressure to improve their profitability; the only choice left for owners is to die, or to sign up.

The consolidation process in the shipping industry is far from over. What changes have been taken place in oil companies may spread to steel mills, power stations or any big bulk cargo consumers. The consolidation occurred in the supply side of the shipping industry could be seen just as a start. To fight against low profitability and bring back a reasonable level of return, more and more pooling arrangements, as well as other forms of consolidation, are hopefully to continue in a foreseeable future.

Chapter VIII

Summary and conclusions

The purpose of this dissertation is to study the *status quo* of the bulk shipping pools, to examine the rationale of their existence, to analyze its *pros and cons* and to foresee the development of modern shipping pools.

World shipping has been undergoing a structural change in recent years. Containerization and globalization have made the liner shipping have a relatively orderly market. The bulk shipping business still maintains its important role in world seaborne trade and shipping business. The new changes in most bulk shipping sectors can not catch up the step as their counterparts in the liner business. The volatile nature of the market and free competition are the main reasons for low profitability. As one possible solution to try to improve profitability, many ship owners have formed pools.

In the late 60s, the pooling concept spread from the liner business to bulk shipping. After the new pools were created, the shipowners found they were in favorable position as they obtained better return. Competition was reduced and incomes were stabilized. In the meantime, vessel routes were rationalized and overheads were reduced. All these lead to a boom of shipping pools not long after their first appearance. In the 1970s, bulk shipping pools had penetrated most sectors of bulk shipping.

However, there are some disadvantages with shipping pools. The complex structure of the pools sometimes will prolong the decision-making process; the individual members worry about losing their market knowledge and some owners worry that the long commitment to the pool will prevent them from asset play. Compared with container lines, the development of bulk shipping pools were slow for these reasons.

In the 1990s, the intensified consolidation process had a significant impact on bulk shipping sectors, like in all other sectors. The mergers and alliances of major oil

companies, steel mills and grain houses have put cargo owners / charterers into a powerful position when negotiating with shipowners. Besides this, the volatility of the bulk shipping market was also intensified by the Asian financial crises, political turmoil and oil crises throughout the period. All these factors lead to a long time recession of bulk shipping in the 1990s. As a countermeasure to this, more owners began to join pooling arrangements. The big bulk carriers and tankers have a long history of resistance to the pooling concept, but this has changed in recent years. It is no longer a rare phenomenon for the existence of Cape pools or VLCC tankers pools. Compared with the 1970s, the size of most bulk shipping pools increased in terms of ship numbers. The market coverage was also widened, in some sectors of bulk shipping, so the markets have been dominated by several big pools.

The newly formed VLCC tanker pool, Tankers International, can be seen as an attempt of consolidation in traditional commodity shipping segments, but the effect of the pool has so far been limited. The new big tanker pools and Cape bulker pools are, however, expected to have a further growth. The lack of Far East owners' presence in pooling arrangements is another important characteristic of modern bulk shipping pools, but this may change with the extensive consolidation process on the demand side. The remarkable success achieved by European bulk shipping pools could also be another incentive for their active involvement in pooling arrangements.

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SHIPPING POOLS

DRY BULK

NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
Associated Bulk Carrier (ABC)	Capesize	P&O (U.K.)	World wide	26 capesize with total 4.2mil dwt.	The two large partners P&O and SG group formed ABC based in Hong Kong 1997. The joint venture ended at early 1999. ABC now listed in Oslo stock market still open for partners.	Tradewinds 99.04.16. 99.09.17
Atlantica Shipping co.	Handymax	1. A M Nomikos (Greece) 2. Egon Oldendorff (Germany) and other 2 Norwegian partners	World wide	5 handymax	Oslo based pool, all members have handymax vessels, but none of them was included in the pool, the pool only takes in vessels on trip or short time charter basis.	Tradewinds 99.08.20 99.02.05
Baumarine	Panamax	1. T. Klaveness (Norway) 2. Sea Justic S.A., 3. Deiullemar compagnia, 4. Ispat shipping, 5. Earland	World wide	15 panamax	Operated by T. Klaveness	www.tk-group.no
Belt Unload Pool	Self unload vessels	T. Klaveness (Norway)	Gulf area	2 belt unload ships	Operated by T.Klaveness	www.tk-group.no

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NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
Bocimar	Capesize	1. Bocimar (Belgium) 2. A.P.Moller (Denmark) 3. Overseas shipping group (O.S.G). (U.S.A.)	World wide	50-60units capesize	The three partners already have a pool on VLCC, and think it is naturally to form a capesize pool.	Tradewinds 00.03.24.
Bulkhandling	Capesize	T. Klaveness (Norway) Klaveness A.S. (Norway)	World wide	8 capesize	Operated by T. Klaveness	www.tk-group.no
LDA(former Cetrappa)	Handymax , Panamax capesize	Louis-dreyfus-armateurs (France)	World wide	13 capesize, 4 handymax (all with cranes and grabs), and 6 panamax	Once had 7 members in pool but only Louis-dreyfus left, the pool did not change the name as it was very famous at Japan. In 1999, LDA reorganised the pool and will put 5 more new buildings into the pool.	Tradewinds 00.03.24 00.03.27
Coeclerici	Panamax	1. Ceres Hellenic (Greece) 2. Coeclerici (Italy)	World wide route	6 panamax	The pool is keen to find new partners in Far East area.	LLP99.12.15 99.5.27
Coeclerici	Capesize	1. Coeclerici (Italy) 2. Cere Hellenic (Greece) 3. International Shiphold Corp. (ISC) (New York listed company) 4. Livanos (Greece) 5. Ispat group (India) 6. Grimaldi shipping interests	World wide	13 capesize	The pool is said to reach the optimal size with 6 partners, and want to find a partner in Far East area. The leading company Coeclerici is famous for the quick-decision making process. Too many partners may have negative affect on it.	LLP 99 12.15 99.05.27.

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NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
Daiichi – Lorentzen	Panamax	1. Daiichi Chou Kisen (Japan) 2. FH Lorentzen (Norway)	World wide	20 geared panamax	The pool began at 1995 with only 3 ships. Daiichi opened a subsidiary in Singapore to operate the pool (cheaper than Tokoyo)	Tradewinds 00.08.04
Drycargo Pool	Handymax	1. T.Klaveness (Norway) 2. Sanmar Shipping 3. Oceanbulk maritime, 4. Phoenocan Ltd. 5. Eurobulk, 6. Chellaram shipping 7. West Asia maritime, 8. Thos. Jas. Harrison, 9. Essar shipping, 10. Varum shipping,Eastern 11. Mediteranean shipping	World wide	24 modern handymax	T.Klaveness is the leading company of the pool. The company operates 6 pools on dry bulk area and response for commercial operation.	www.tk-group.no
Gearbulk	Open hatch gantry crane vessel	1. Kristian G Jebsen (60%) (Norway) 2. Mitusi OSK lines (40%) (Japan)	World wide	49 modern handymax about 14 years. 38% of the total world open hatch fleet	World leading operator of open hatch gantry crane vessels, one of the most successful shipping co. in junk bond market	LLP00.4.20 99.11.22.

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NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
Jebson Wilson Eurocarriers	Small vessel	1. Paal wilson (Norway) 2. Jebson (Norway) 3. Bergen (Norway)	North sea	90 small ships range from 1,000 to 8,000 deadweight. About 70% of the North sea market.	Started from 1993, very profitable pool, in dominant position of North Sea area. Once being investigated by EU authorities that whether the pool fostered price co-operation and dominance.	Tradewinds 00.7.4 , 95.3.10
Proobo Pool	OBO	T. Klaveness (Norway)	N/A	6 OBO ships	Operated by T. Klaveness	www.tk- group.no
Saga Forest Carriers	Open hatch bulk	1. NYK (Japan) 2. EA-Aaby (Norway), 3. Borgestad (Norway)	World wide	7 Handymax about 46,000mt dead-weight	The pool was established in 1992, there were about 40 open hatch bulk carriers at that time. In Dec 1994, one of the partner EA Aaby withdraw from the pool by believing that they can make better profit out of the pool arrangement.	Tradewinds 95.10.20 94.12.30
Samklav Bulk Carriers	Handymax	1. T. Klaveness (Norway) 2. Samudra Petrindo Asia (Indonesian)	Within Indonesian waters	10-20 handymax	The pool mainly focuses on the contract on large power plant in Indonesia. The Indonesia partner is controlled by the elder son of the former leader of the country.	LLP95.11.23. Tradewinds 97.09.26

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NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
Sealift	Handysize	1. Sealift (Belgian) 2. Tschudi & Eitzen (TEB) (Denmark)	Mainly in Central America	4 handysize vessels	The two companies started co-operation after the former boss of Sealift retired and sold the company to 5 colleagues. The pool operated quite well.	Tradewinds 00.04.14
Sks OBO Ltd.	OBO vessels	1. KG Jebsen (Norway) 2. CSAV (Chile)	World wide	11Modern OBO vessels, about 110,000mt dwt	The pool originally consisted of 3 partners KG Jebsen, Sinotrans of China and Sovcomflot of Russian with 10 vessels. By the end of 1995, Sinotrans and Sovcomflot decided to pull their 9 vessels out of the pool. It is reported that there were some problems between partners. After the leaving of the two partners, CSAV of Chile joint the SKS OBO pool. The pool is still active in the OBO market today.	Tradewinds 00.6.9 99.9.3. 98.8.7. 95.10.27.
Star Shipping	Open hatch bulk	1. Grieg shipping (Norway) (50%) 2. Masterbulk(Singapore) (50%)	World wide	75-80 bulk carriers, include 45 open hatches	The second largest open hatches company under Gearbulk, mainly take Forest products bulk cargo. Singapore based Masterbulk is a controlled by Westfal-Larsen, Norway.	Tradewinds 00.4.20. 99.10.29.97.8.22.

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NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
TNL	Panamax	1. Torm shipping(Danish) 2.Kause E Oldendorff, 3. Maryville Marimte, 4. Lasco	World wide	25 panamax	Leader company Torm Shipping is a keen player of pooling arrangement, the company attend 5 pools in product tanker, panamax, and handy logger.	Tradewinds 00.03.03.
Transasia Pool	Handysize	IMC (H.K)	South East Asia area	14 handysize	One of the pools under IMC group.	
Transocean Grabbulk Pool	Grabed bulk Handymax	1.IMC (HK.) 2.Ming Wha (HK) 3. Safe Marine (S.Africa)	World wide, especially in Far East	25 handymax with cranes and grabs	Very successful pool in the Far East area, headquarters in Singapore, operated by joint members of partners.	
Transworld Pool	Panamax	IMC (H.K.)	World wide	8 panamax	One of the pools under IMC group.	
UBULK	Handymax	1. Ugland (Norway) 2. Norsk Hydro (Norway) 3. Navicon (Finland) 4. GVA (Sweden) 5. Mitsubishi (Japan)	World wide, but have a strong position in Atlantic	16 modern handymax	The pool is operated by WBC, Oslo.	LLP95.11.25 Tradewinds 97.4.11.
Unitramp	Handymax	1.Worms group shipping co.(France) 2.compagine national de navigation (CNN) , (France) 3. CMB (Belgian)	World wide	30 handysize of 40,000-45,000 dwt handymax	A strong position in North American and the Far East trades	LLP95.9.26

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NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
WBC	handymax	1.WBS (Norway) 2.United Ocean Enterprise (UOE) 3.Nimex (Mexico) 4.A.P.Moller (Denmark) 5. Marubeni (Japan) 6. Bulk shipping (Swiss) 7.Edna shipping 8. Belship (Norway)	World wide	65-70 modern handymax ships	The pool is controlled by Oslo listed WBS (western bulk shipping). The company was once controlled by Belship (controlled by other Norwegian shipping co.) Through stock market. The tie between WBS and Belship already loosed.	LLP95.10.6, 91.12.28. Tradewinds 98.01.16.

SHIPPING POOLS*TANKER*

NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHAR	REMARKS	SOURCE /TIME
Star Tankers	Panamax	1. Pleiades (Greece) 2. Heidmar (Greece) 3. Minerva (Greece) 4. Tanker Pacific (Singapore) 5. Fortum (Finland) 6. Liquimar tanker management (Greece) 7. Ionia management (Greece) 8. OMI and Coastal (U.S.A.) 9. Coscol Marine Corp. 10. Koch Supply & Trading company	World wide	39 panamax tankers, 30% of the market share in North Atlantic and Caribbean area	Another 10 –15 newbuilding are expected to join the pool next year. The pool is operated by Heidmar.	LLP99.10.15 Tradewinds 00.02.22. 00.05.19 00.06.09

APPENDIX II

NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHAR	REMARKS	SOURCE /TIME
Tankers International	VLCC	1. Frontline (Sweden) 2. Osprey (Singapore) 3. A.P Moller (Denmark) 4. OSG (U.S.A.) 5. Euronav (Norway) 6. Klaus Oldendoff (Germany)	World wide	More than 50 VLCCs. 9% of world VLCCs fleet	World largest VLCC pool, Commenced operation at 15 Feb. 2000. Headquarter in London and heading by Frontline.	LLP 00.01.11 00.05.24 99.12.18 99.12.21
Euronav (headquarter in Luxembourg)	VLCC, Aframax, Suezmax	1. CNN (France) 2. CMB (Belgium)	World wide	18 tankers including 7 VLCC, 6 Aframax, 5 suezmax, total 3.25 m dwt	The pool also has a join venture on VLCC with CSDC (China Shipping Development Co.).	LLP 97.06.04. Tradewinds 99.05.07 96.04.26
Alliance Chartering	Suezmax	1. Frontline (Sweden) 2. OMI (U.S.A.)	World wide but has strong position in Atlantic market	29 Suezmax (crude oil tanker and OBO), 30% of Atlantic market	Leading partner Frontline is trying to get more partners in this pool.	Tradewinds 00.06.16 00.06.09
Tonen –GSK	VLCC	1.Tonen corp. (Japan) 2. General Sekiyu kaisha (GSK) (Japan)	Gulf to Japan	15 VLCCs, including 10 from Tonen and 5 from GSK	Two major Japanese oil companies decided to operate their VLCC together in 1995, to reduce transportation cost.	LLP95.9.1 Tradewinds 95.09.01
Mitsubishi – Cosmo	VLCC	1. Nippo Mitsubishi Oil (Japan) 2. Cosmo oil (Japan)	Gulf to Japan	30 VLCCs	Two major Japanese oil companies joined their VLCC fleet for the effective usage of fleet, and to reduce spot requirement. The pool was established in 1999, 4 years after another Japanese tanker pool Tonnen-GSK.	Tradewinds 99.10.22.

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NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHAR	REMARKS	SOURCE /TIME
Torm pool	Aframax	1. Torm shipping (Denmark) 2. Agean Pride (Greece) 3. Arcadia shipmanagement (Greece)	World wide	10 Aframax	Copenhagen based pool, is leaded by Torm Shipping.	LLP 99.10.21 Tradewinds 99.11.26
Stolt – Nielsen	Chemical tanker	1. Stolt - Nielsen 2. N.Y.K. (Japan) 3. Bibby line (Livepool)	World wide	130 chemical tankers, total 2.34mil dwt,23% of market shares	Smaller, high –grade parcels of chemical tankers	Tradewinds 98.3.27
Broström AB	Product carriers	4. United tankers (Sweden) 5. Van Ommeren tankers(Holland) 6. Van Ommeren Iver Shipping (Holland)	World wide	Total 58 product carriers including 21 from United Tankers, 14 from Van Ommeren tankers and 23 from Van Ommeren Iver shipping	One of the world largest, most diversified product tanker fleet. The pool was formed in 1998 at that time named BROVO, and changed the name into Broström AB early 2000. Gothenburg based.	LLP00.03.02 99.09.28.
IPC	Product carriers	1. OMI (U.S.A.) 2. Osprey (Singapore) 3. Torm (Demark) 4. Tufton Oceanic (London based financing company) 5. Ultragas Group (Chile) 6. NYK (Japan)	World wide	32 product carriers	Has 9 medium range (MR) product tankers in Asian Pacific region.	Tradewinds 00.07.07

APPENDIX II

NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHAR	REMARKS	SOURCE /TIME
TPP	Product carriers	1. Torm (Denmark) 2. Pacific Carriers ltd(PCL) 3. Primorsk (Russia) 4. Sanmar (India)	Active in he east of Suez market	10 product carriers with 46 – 50,000 dwt (52,000 cbm average)	Leading by Torm shipping, engaged in middle distillates.	LLP 99.09.28
LR1 (large range1)	Product carriers	1. Torm (Denmark) 2. Waterfront (Oslo) 3. Marininvest(Gothenburg based) 4. Difko (Denmark) 5. Sydbank (Denmark) 6. Stelmar (London)	Active in the east of Suez market	23 product tanker with 55-80,000 dead-weight	Leading by Torm shipping, engaged in naphtha and middle distillates.	LLP 99.09.28
LR2 (large range2)	Product carriers	1. Torm(Denmark) 2. Klaus Oldendorff (Cyprus) 3. Hyundai Merchant Marine (S. Korea)	Active in the east of Suez market	10 product tankers with 100,000 dwt Aframax size, (7 fully coated). 25% of global LR2 market	Leading by Torm shipping. Engaged in naphtha from Middle East to Japan and S. Korea.	LLP 99.009.28
Vopak Essberger Chempool	Chemical tankers	1. Essberge (Hamburg based) 2. Vopak (Pordrecht based)	European short sea	24 Modern high class chemical tankers	Largest player in European shortsea.	Tradewinds 00.06.30.
Od fjell and Seachem	Chemical tanker	1. Od fjell (Norway) 2. Seachem (Monaco)	world-wide	Total 92 ships, 2.6m dwt, 26% market shares	The pool merged in May 2000. The world largest chemical tanker pools in tonnage terms.	LLP00.2.19 00.06.14

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NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHAR	REMARKS	SOURCE /TIME
Novamar-UCT	Chemical carriers	1. Novamar (Italy) 2. UCT (German) 3. Seachem (Monaco)	Very strong position in NorthWest Europe, Med., Europe – Brazil and U.S. Gulf.	40 of chemical tankers	Dismissed at June 2000, existed for 5 years. By two reasons: 1. The inequities in the revenue sharing arrangement, 2. Pool offices were located both in Hamburg and Milan.	Tradewinds 00.06.23.
Novamar	Chemical carriers	1. Finavel (Italy) 2. Marnavi (Italy)	Mainly at Intermed – Med. – Cont. trade	18 chemical tankers	The operator of pool dismissed the relation with UTC and Seachem 2000. UCT removed 6 pooling ships, as they were thought uneconomic to operate with Mediterranean charterers.	Tradewinds 00.06.23 00.07.07
UCT	Chemical carriers	1. Christian Ahrenkiel, (Germany) 2. Schuldt group (Germany)	World wide	18 chemical carriers	Started operation at 1986.	Tradewinds 00.06.23.s
Jo Tankers	Chemical tankers	1. Odfjell (Norway) 2. Chemship (Holland) 3. Westwood shipping lines (U.S.A)	Mainly on USGulf – Mediterranean service also have market share in Asia	42 chemical carriers. World third largest chemical tanker fleet, total 880,000dwt.	Holland based pool, main partner is Odfjell.	Tradewinds 99.2.12 98.3.27

SHIPPING POOLS

OTHERS

NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
Alpha Reefer Transport (ART)	Reefer	1. Lavinia group (Greece) 2. Vostokransflot (Russia) Other 4 members	World wide	More than 50 of reefer, from 80,000 to 560,000 cbf.	The pool is based in Hamburg, but controlled by Lavinia Group.	LLP 98.07.03
Unicool	Reefer	1. Leigh Hoegh (Norway) 2. Swan reefer (Sweden) And other 6 members	World wide	91 reefers, 23% of the market share	The pool is based in Sweden but fully controlled by Norwegian company Leigh Hoegh. Swan reefer decided to seek pool arrangement by moving 6 reefers to Lauritzen and 7 reefers to cool carrier due to the poor market situation recently.	Tradewinds 00.6.30.
Lauritzen	Reefer	1. Lauritzen (Denmark) 2. Swan reefer (Sweden) And other 5 members	World wide	About 45 reefers, 11- 12% market share	Lauritzen reefer is a Copenhagen-based shipping pool, the pool is operated under Lauritzen company, which also a bulk player	Tradewinds 00.6.30.
Seatrade	Reefer	1. Vroon (Holland) 2. Roswell navigation (Greece) 3. Hagenaes (Norway) And other 11 partners	World wide	Total about 120 reefers from 14-15 partners	Antwerp based pool.	Tradewinds 00.06.30 00.07.07 99.10.21

APPENDIX III

NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
Star Reefers	Reefer	1. Albion reefer (UK) 2. Hamburg Sud (Germany)	World wide	20 reefer, about total 16mcbtf capacity,15% of handysize reefer market	Established in 1989.	LLP 00.07.19
Universal Reefers	Reefer	1. Safmarine (S.Africa) 2. Serva shipping 3. Capespan shipping	Mainly in south african trade market	World no.9 largest player in reefer market, with total capacity over 7 mil cubft.	U.K. based pool, some of the partners are also member of unicol. Two pools have some conflicts.	LLP99.10.13 97.6.10. 97.5.8.
Skadigas	LPG	1.AP Moller (Denmark) 2.Bergesen (Norway)	World wide	50 LPG ,1/3 of market share	The pool replace Igloo at early 2000 because the major partner decided to join the fleet with AP Moller LPG fleet. The new pool generated improved profit during the first quarter of 2000	LLP 99.11.4
Igloo	LPG	1. Bergesen, (N) 2. Exmar (Belgium)	N/A	16 LPG	Replaced by skandigas early 2000	Tradewinds 00.5.19 99.10.15
Havtor	LPG	1. Havtor (Norway) 2. Kvaerner (Norway) 3. Neste(Finland) 4. Skibsaksjeselskapet solvang (Norway) 5. SCI (India)	World wide	46 LPG, ranging from 20,000 to 60,000cbm	In 1996, the main partner Havtor merged with Bergesen DY, the pool is under control of Bergesen group.	Tradewinds 99.02.12

APPENDIX III

NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
Norwegian Gas Carriers (NGC)	LPG	IM Skaugen (Norway)	World wide	14 ethylene carriers and gas carriers	World second-largest ethylene carrier	Tradewinds 99.07.02 98.01.30
Unigas	LPG	1. Naftomar shipping & trading co. (Greece) 2. Schulte group(Germany) 3. Sloman neptun (Germany), 4. Othello shipping (Panama based)	World wide	20-25 LPG, ranging from 3,000 to 8,000cbm	One of the leading partner of the pool, Liquid Gas Shipping (LGS) of U.K., pulled out of the pool in 1999.	Tradewinds 00.2.11. 99.1.8.
Bergesen VLGC	VLGC	1. Bergesen DY (Norway) 2. General ore international corp. 3. Mitsubishi corp. (Japan) 4. Arbross ship management	World wide	27 VLGC out of world total 90 , another 8 on delivery 2000	World largest gas player, controlled 1/3 of the world VLGC fleet from 20,000 cbm – 50,000 cbm. Bergesen DY is in dominating position.	Tradewinds 00.7.21. 00.4.7. 00.1.21. 99.3.26
HUAL (Hoegh – Ugland Auto Line)	Car-carrier	1. Hoegh, (N) 2. Ugland (N)	World wide	33 car carriers, world 6 th largest car carrier	The pool has a history of 30 years. But one partner Leif Hoegh took over 100% of HUAL early 2000, for the reason of the need to gain strategic and management control in a time of opportunities presented by the consolidation and restructuring in the auto industry.	LLP 95.11.25 Leif Hoegh annul report 1999

APPENDIX III

NAME	POOL TYPE	POOL MEMBER	ROUTE	NO. OF SHIP /MARKET SHARE	REMARKS	SOURCE /TIME
NOSAC	Car carrier	1. Wilh Wilhelmsen (Norway) 2. Oyvind Lorentzen, (Norway) 3. Den Norske Amerikalinje (NAL) (Norway) 4. Selvaag (Norway)	World wide and strength in Far East to North America line	18 deep sea car carriers	To win a big contract from General Moter, Oyvind Lorentzen teamed up with Wilh Wilhelmsen to establish a car carrier pool. 1987, NAL acquired the shares in Oyvind Lorentzen. In 1990s, the pool was integrated with Wilh Wilhelmsen. Wilh Wilhelmsen decided to combine the liner operations of Ro-Ro carriers with deep-sea carriers, so as to minimise the need to carry container.	Tradewinds 00.4.20. 98.01.30. 96.12.13.